

**WORK ASSIGNMENT
Statement of Work**

Title: SPECIATE 5.1 and database updates

Contractor Name: Abt Associates **Contract #:** EP-W-17-009

Work Assignment Number: WA 3-31

Period of Performance: **Date:** September 11, 2019 – September 10, 2020

Estimated Level of Effort: 476 hours

Work Assignment Contracting Officer's Representatives (CORs):

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Background:

SPECIATE is a database of elements, compounds, particulate matter (PM) and other emissions from stationary and mobile sources (i.e. it provides an emissions profile for each source). It compiles literature or other data on the identity of chemical species in and composition of air pollutant emissions from all sources. These profiles are used to assess the impact of air emission sources on natural resources, human health, and the environment. For example, SPECIATE is used to support development of the National Emissions Inventory and associated modeling platforms, atmospheric modeling of regional haze, and prediction of human and ecological exposure. The SPECIATE database is a valuable tool used by air quality modelers, source-receptor modelers, developers of emission inventories, and others who need a speciated breakdown of emissions. SPECIATE is housed in a Microsoft Access database available via OAQPS's modeling platform website at <https://www.epa.gov/air-emissions-modeling/speciate>

Released in July 2019, SPECIATE Version 5.0 Database Development Documentation (EPA Contract No. EP-BPA-17H-0012, publication EPA/600/R-19/098) was the latest development and update of SPECIATE, and was accomplished by a multi-office EPA Speciate Workgroup (SWG) comprised of staff from the Office of Research and Development (ORD) and Office of Air and Radiation (OAR) from the following laboratories and offices: • ORD National Risk Management Research Laboratory (NRMRL), ORD National Exposure Research Laboratory (NERL), OAR Office of Air Quality Planning and Standards (OAQPS), and OAR Office of Transportation and Air Quality (OTAQ). SWG members select the data, perform quality assure on the data and profiles, and coordinate on improvements to the database structure and metadata fields. As newer SPECIATE versions are developed, improvements are made to the process as well as the data. Processes that have been improved in SPECIATE include the method by which the SWG evaluates profiles for inclusion, a systematic approach to identify profile needs, updates to reference information, and improved documentation.

EPA generated SPECIATE 5.0 by appending 370 organic gas profiles and 86 PM profiles to the SPECIATE 4.5 database. In total, the SPECIATE 5.0 database includes 6,654 profiles. The organic gas profiles added span a large number of different sources including oil and gas, biomass burning, mobile sources and consumer products. The PM profiles include various combustion sources and dust. Some of the sources complemented sources already in SPECIATE, other sources such as speciation from oil and gas ponds, and sugar cane burning were new to SPECIATE. EPA added model-ready versions of existing SPECIATE PM profiles to support aerosol modules currently available and being developed. EPA made structural improvements to the SPECIATE 5.0 database to consolidate common fields and tables. EPA expanded the metadata fields to include additional information on profile quality and to collect data that would support the volatility basis set approach for air quality models. Additional species properties such as vapor pressure which facilitates gas/particle partitioning were added.

The SPECIATE BROWSER has been improved in capability, accessibility, and usability. Users can search for profiles by any of the fields associated with a profile or the species contained in

the profile. Adding profiles to SPECIATE requires many layers of review including processes to prioritize and evaluate the data. For SPECIATE 5.0 an additional quality assessment scoring system (resulting in a quality score or QSCORE) was developed to evaluate profiles using criteria that cuts across many aspects of profile development and potential use such as measurement techniques, completeness and source category needs. Through the development of SPECIATE 5.0, ideas for continued future improvements and directions have been discussed by the SWG.

Also released in July 2019, SPECIATE: Guidelines for Data Developers (EPA Contract No. EP-BPA-17H-0012, and report EPA/600/R-19/085). The purpose of this document is to inform the research community about the content and quality considerations of data so that the EPA can consider community-developed data for inclusion in SPECIATE. Researchers can provide these data voluntarily to EPA for consideration to be added to SPECIATE.

Version 4.5 of SPECIATE was released in September 2016. It is the product of several revisions and additions. The document, “SPECIATE Version 4.5: Database Development Documentation” (EPA/600/R-16/294) addresses changes and additions to the database from version 4.4 to 4. 5. SPECIATE 4.5 was completed as part of EPA Contracts Number EP-D-08-100/WA 4-14 and EP-W-11-003/WA 4-100. The first online edition, version 4.0, was begun in 2004. Canadian data were added in the update to SPECIATE 4.1. SPECIATE 4.2 was initiated in 2007 to incorporate profiles for mobile sources, thereby making it more useful to EPA’s Office of Transportation and Air Quality (OTAQ). SPECIATE 4.2 documentation was published June 2009 (EPA/600/R-09/038). SPECIATE 4.3 (EPA/600/R-11/121) and SPECIATE 4.4 (EPA/600/R-13/307) added more profiles and were published in 2011 and 2014, respectively.

The development of SPECIATE relies on the advice of EPA emission and modeling experts and other users of emissions profile data. This ad hoc group is called the SPECIATE Workgroup and serves as an outreach mechanism for the SPECIATE task. The workgroup is convened by the WA COR on an as-needed basis. The workgroup includes several committees that are evaluating future data needs that could be met by expanding the scope of SPECIATE.

In summary, the maintenance of SPECIATE requires continuous assessment. EPA SWG members have established a process to identify and prioritize need, find sound research sources which address that need, critically review those sources, and finally add that data to SPECIATE. This rigorous attention to maintaining quality and relevance has established SPECIATE as a uniquely positioned source of information for air quality analysts, modelers, researchers, specialists, as well as interested public officials and individuals.

There shall be no duplication of previously completed work. Previous contracts and work assignments are summarized below:

Contract	WA #	Contractor	Ver- sion	Year	Comments
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EP-17-H-0012	68HE 0H18 F018 6	Abt Associates	5.0	2019	Release SPECIATE 5.0, and Documentation (EPA/600/R-19/098), and release SPECIATE Guidelines for Data Developers (EPA/600/R-19/085), and Data Browser
EP-17-H-0012		Abt Associates	5.0	2018	Develop SPECIATE Data
EP-W-11-003	4-100	Abt Associates	4.5	2017	Update SPECIATE Data Browser
			4.5	2016	Release SPECIATE 4.5 and Documentation (EPA/600/R-16/294)
EP-D-08-100	4-14	Abt Associates	4.5		Initial SPECIATE 4.5 input
EP-D-08-100	4-14	Abt Associates	4.4	2014	Release SPECIATE 4.4 and Documentation (EPA/600/R-13/307)
			4.3	2013	Release revised QAPP
EP-D-08-100	4-02; 3-10	Abt Associates	4.4		Develop SPECIATE 4.4
EP-D-07-097	5-04	E.H. Pechan and Associates	4.3	2011	Release SPECIATE 4.3 and Documentation (EPA/600/R-11/121)
EP-D-07-097	4-01; 3-01	E.H. Pechan and Associates	4.3		Develop SPECIATE 4.3
EP-D-07-097	2-05	E.H. Pechan and Associates	4.2	2009	Release SPECIATE 4.2 and Documentation (Mobile Sources focus) (EPA/600/R-09/038)
EP-D-07-097	1-03	E.H. Pechan and Associates	4.2		Develop SPECIATE Data Browser
68-D-02-063	5-07	E.H. Pechan and Associates	4.2	2007	Initiate SPECIATE 4.2
68-D-02-063	5-05	E.H. Pechan and Associates	4.1	2007	Release SPECIATE 4.1 and Documentation (Canadian data focus)
68-D-06-001	0-03	E.H. Pechan and Associates	4.0	2006	Release SPECIATE 4.0 and Documentation (EPA/600/R-06/161)
			4.0	2006	Release QMP for SPECIATE 4.0
68-D-02-063	2-12; 4-04; 5-05	E.H. Pechan and Associates	4.0	2004	Develop SPECIATE 4.0
68-D-02-063	4-04	E.H. Pechan and Associates	4.0	2006	Develop QMP for SPECIATE 4.0
			4.0	2006	Initiate SPECIATE 4.1 entry of Canadian data
68-D-00-265	4-49	E.H. Pechan and Associates	4.0	2005	Develop SPECIATE 4.0 and QMP
68-D-00-265	4-46;	E.H. Pechan and Associates	4.0	2004	Develop SPECIATE 4.0

68-D-00-265	3-28	E.H. Pechan and Associates	4.0	2003	Initiate SPECIATE 4.0
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Purpose and Objectives:

The primary objective for this Work Assignment is to add profiles to SPECIATE and assist EPA with the updates to the database, assisting with updating the Standard Operating Procedures for adding profiles, interacting and providing guidance with input and questions from researchers using SPECIATE: Guidelines for Data Developers (EPA/600/R-19/085) and preparing for the SPECIATE 5.1 release which entails development of the public release version of the SPECIATE 5.1 database and BROWSER Guide and documentation.

The contractor shall provide technical reviews, analysis and/or guidance on information (including books, reports, journal articles, conference proceedings, unpublished documents and research reports selected by EPA WA COR) related to the specific task areas covered by this SOW and each WA SOW as applicable. The contractor shall have the capability for producing reviews of references, data files, data profile and bibliographies. When required in a WA, the contractor shall provide summaries and/or evaluations of source documents.

The contractor shall provide technical, administrative, editorial and graphics assistance for the preparation of special reports, webpages and briefing papers on issues related to the specific task areas covered in this SOW. These efforts will include conducting information searches, technical writing, editing, graphics preparation, and report layout and production, and webpage and website production. When the WA COR identifies knowledge and expertise requirements for the performance of work, the contractor shall provide its staff with the appropriate knowledge and expertise.

The contractor shall collect, organize, and provide data from documented source emission reports and sources of data to be used by the Agency in its data analysis and understanding of technical issues related to subject areas covered by this SOW. By using or adapting existing software application programs, the contractor shall design forms, collect and enter data, manipulate the data as required by the WA, design and produce formal and ad hoc reports. The contractor shall conduct these activities in such a way as to maintain the integrity of the data and shall institute data security measures as directed in the WA.

Quality Assurance (QA) Requirements

The Contractor shall submit a written Quality Assurance Project Plan for any project that is developing environmental measurements or a Quality Assurance Supplement to the Quality Management Plan for any project which generates environmental data using models with their work plan. In addition, the contractor shall resubmit and adhere to the stipulations and provisions of the report titled "SPECIATE 5.0 Quality Assurance Project Plan (QAPP)," previously dated April 10, 2019. The QAPP is incorporated herein by reference. Although SPECIATE 5.0 is included in the title of the QAPP document, the QA procedures have not changed and continue to be applicable to the development of subsequent versions of the

database.

Tasks and Deliverables:

The WA COR will review all deliverables in draft form and provide revisions or comments to the contractor. The contractor shall prepare the final deliverables incorporating the WA COR's comments. Final deliverables shall be in Microsoft Word or other appropriate electronic format requested.

Contractor personnel shall at all times identify themselves as contractor employees and shall not present themselves as EPA employees. Furthermore, they shall not represent the views of the U.S. Government, EPA, or its employees. In addition, the contractor shall not engage in inherently governmental activities, including but not limited to actual determination of EPA policy and preparation of documents on EPA letterhead.

The contractor shall not duplicate any previously performed work.

Description and Tasks:

Task #1: Prepare Work Plan and Project Administration

The contractor shall prepare a Work Plan within 15 calendar days of receipt of a work assignment signed by the Contracting Officer (CO). The Work Plan shall outline, describe and include the technical approach, resources, timeline and due dates for deliverables, and a detailed cost estimate by task and a staffing plan.

The WA COR, CL COR and the CO will review the Work Plan. However, only the CO can approve/disapprove, suggest revisions, or change the Work Plan. Official revisions will be given to the contractor by the CO. The contractor shall prepare a revised Work Plan incorporating the CO's comments, if required.

Deliverables and schedule under Task 1

- 1a.** Work Plan within **15** calendar days of receipt of work assignment.
- 1b.** Revised Work Plan within **3** days of receipt of comments from the WA-COR, if required.

Task #2: Continued SPECIATE development and Input for SPECIATE 5.1 and beyond

Under this task, the Contractor shall make revisions, as directed by the WA COR to SPECIATE 5.1.

These revisions cover three categories: 2.1) corrections and enhancements to the metadata identified during SPECIATE 5.0 and further analyses to improve metadata 2.2) adding profiles

for categories of interest and 2.3) structural changes to improve the database.

- 2.1 The contractor shall review and correct errors and enhance metadata to make more consistent across different profiles. Profile meta data fields to be addressed include but are not limited to ORIG_COMPOSITE, the categorization fields (including fully populating them for all profiles), MASS_OVERAGE and reference information (including links) for composite profiles. SPECIES_PROPERTIES information also need to be addressed such as making sure duplicate SPECIES have duplicate meta data and consistent notes for duplicates, and examination of species for whether they are HAPs – particularly whether the species or groups of species meet the EPA HAP definition of polycyclic organic matter (section 112(b) CAA).
- 2.2 The contractor shall review targeted literature publications or reports or other information provided by the WA COR (10 publications) and databases (by WA COR direction) to construct draft and final profiles of volatile organic gas and particulate matter (PM) speciation profiles of air pollution sources for the purpose of adding data profiles to the SPECIATE 5.1 database. The categories of interest, defined by the WA COR and subject to change, currently consist of the following: consumer products, dust, mobile sources, biomass burning and other combustion. The contractor shall maintain the MasterEvaluation of Profiles List to ensure there is no duplication of data already used in SPECIATE and that it is amenable to review by the SWG.
- 2.3 The contractor shall continue modifications on the existing SPECIATE database to support program activities. The contractor shall address comments and suggested edits and software revisions and additions to the SPECIATE 5.1 database as part of this task. Structural changes are being considered for how SPECIATE reference information is presented and species information. Modifications that assist in preventing user errors shall be determined and upon agreement by the WA COR implemented, including use of forms.

The work specified under this task corresponds directly to that described in NCEE Mission Contract EP-W-17-009, “STATEMENT OF WORK, TECHNICAL SUPPORT FOR ENVIRONMENTAL ECONOMICS RESEARCH AND ANALYSIS, pages 9 and 10 section E. Literature and Document Review, section F. Peer Review, and section G. Data Acquisition and Data Base Management.

Task # 3: Database Preparation for Public Release and Documentation

Database preparation to the SPECIATE database shall be made as directed by the WA COR. Those improvements are listed below.

- 3.1 The contractor shall work with the FORMS for incorporation of data in a way to prevent errors in spelling (categorization), species identification (ids) and determine how to prevent other errors.

- 3.2 The contractor shall develop a set of procedures and steps that cover both the automated QA (e.g., ACCESS queries) to be conducted by the contractor and the QA to be conducted by the SPECIATE WG. These shall be documented in the QAAP and
- 3.3 Documentation, including the background document, QAPP, SOP (covered in Task 4) and data developers guide (covered in Task 5) addressing SPECIATE 5.1 data preparation improvements shall be prepared that addresses all updates made for SPECIATE 5.1.
- 3.4 The contractor shall develop more streamlined/consistent and easy to understand excel workbooks. Instructions on changes will be provided by the WAM via email or through the SharePoint site. All products under this task shall be 508 compliant.

The work specified under this task corresponds directly to that described in NCEE Mission Contract EP-W-17-009, "STATEMENT OF WORK, TECHNICAL SUPPORT FOR ENVIRONMENTAL ECONOMICS RESEARCH AND ANALYSIS, pages 9 and 10 section E. Literature and Document Review, section F. Peer Review, and section G. Data Acquisition and Data Base Management.

Task # 4: Standard Operating Procedure (SOP) Improvements

The contractor shall also assist in the modification of the Standard Operating Procedure (SOP) as directed by the WA COR for making additions or modifications to the SPECIATE database. The improved SOP shall explain all procedure and priorities used, and the general step-by-step process utilized in extracting data and documentation from a literature publication to a quality data profile, including QA by the SWG and by the contractor (for overall database integrity and consistency QA). The contractor shall document how the forms can be used to prevent user error. The assistance that will be needed is to fill in the details after EPA has written up a section and to answer questions EPA has on the procedures that the contractor has used for previous database updates. The SOP shall integrate EPA responsibilities and actions responding to inputs and inquiries from researchers and individuals using SPECIATE: Guidelines for Data Developers (EPA/600/R-19/085). All products under this task shall be 508 compliant.

The work specified under this task corresponds directly to that described in NCEE Mission Contract EP-W-17-009, "STATEMENT OF WORK, TECHNICAL SUPPORT FOR ENVIRONMENTAL ECONOMICS RESEARCH AND ANALYSIS, pages 9 and 10 section E. Literature and Document Review, section F. Peer Review, section G. Data Acquisition and Data Base Management, and section I. Outreach Support.

Task # 5: Prepare SPECIATE5.1 Qlik Browser Guide

The contractor shall develop a guide for users of the Qlik App browser. The guide should list the various browser functions and capabilities, as well as covering a step-by-step explanation of information extraction. The contractor shall check on the functional status of the browser. All

products under this task shall be 508 compliant.

The work specified under this task corresponds directly to that described in NCEE Mission Contract EP-W-17-009, "STATEMENT OF WORK, TECHNICAL SUPPORT FOR ENVIRONMENTAL ECONOMICS RESEARCH AND ANALYSIS, pages 9 and 10 section E. Literature and Document Review, section F. Peer Review, section G. Data Acquisition and Data Base Management, and section I. Outreach Support.

Deliverables:

At the request of the WA COR, the Contractor shall provide an interim draft deliverable as each major milestone is reached. Milestones may include: developing an outline, creating a first draft, revising the draft based on EPA/expert comments, and producing a copy edited and print-/web-ready final draft. The Contractor shall respond within two weeks to comments from the COR on any interim draft deliverable, unless otherwise specified in the table below or through technical direction.

The Contractor shall adhere to the following schedule:

Task	Deliverable	Delivery Schedule
1	Work Plan	15 days after the effective date of the WA
1	QAPP Resubmission	25 days after the effective date of the WA
2 & 3	Ongoing Database Improvements / Ongoing revisions to central database	Upon direction from WA COR
2, 3,4 & 5	Product discussion	Upon direction from WA COR

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment		Work Assignment Number 3-32	
		<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:	
Contract Number EP-W-17-009		Contract Period 02/11/2017 To 09/10/2020 Base Option Period Number 3	
Title of Work Assignment/SF Site Name Lead Free			
Contractor Abt Associates Inc.		Specify Section and paragraph of Contract SOW Sec IIC, para(s) 1 & 3, pg(s) 6-8, Sec IIE, pg 9	
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval		Period of Performance From 09/11/2019 To 09/10/2020	
Comments: The purpose of this action is to initiated Work Assignment 3-32 under Abt Contract EP-W-17-009. The Contractor shall submit an estimated work plan and an estimated budget in accordance with the Contract. See the attached Statement of Work.			
<input type="checkbox"/> Superfund		Accounting and Appropriations Data	
		<input checked="" type="checkbox"/> Non-Superfund	
Note: To report additional accounting and appropriations date use EPA Form 1900-69A.			
SFO <input type="checkbox"/> (Max 2)			
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)
			Budget Org/Code (Max 7)
			Program Element (Max 9)
			Object Class (Max 4)
			Amount (Dollars)
			(Cents)
			Site/Project (Max 8)
			Cost Org/Code
1			
2			
3			
4			
5			
Authorized Work Assignment Ceiling			
Contract Period: 02/11/2017 To 09/10/2020		Cost/Fee: LOE:	
This Action:			
Total:			
Work Plan / Cost Estimate Approvals			
Contractor WP Dated:		Cost/Fee LOE:	
Cumulative Approved:		Cost/Fee LOE:	
Work Assignment Manager Name Jessica Georges _____ (Signature) (Date)		Branch/Mail Code: Phone Number: 202-564-0966 FAX Number:	
Project Officer Name Cheryl R. Brown _____ (Signature) (Date)		Branch/Mail Code: Phone Number: 202-566-0940 FAX Number:	
Other Agency Official Name _____ (Signature) (Date)		Branch/Mail Code: Phone Number: FAX Number:	
Contracting Official Name Genine McElroy _____ (Signature) (Date)		Branch/Mail Code: Phone Number: 202-564-4746 FAX Number:	

WORK ASSIGNMENT
Statement of Work

Title: Lead Free

Contractor: Abt Associates

Contract No.: EP-W-17-009

Work Assignment Number:

3-32

(Estimated Period of Performance:

Date: September 11, 2019 - September 10, 2020

Estimated Level of Effort:

185 hours

Work Assignment COR (WA COR):

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Contract Level COR (CL COR):

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Office of Policy, Immediate Office (1805T)

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Email: brown.cherylr@epa.gov

Background: The Reduction of Lead in Drinking Water Act was enacted on January 4, 2011 to amend Section 1417 of the Safe Drinking Water Act (SDWA or Act) regarding the use and introduction into commerce of lead pipes, plumbing fittings or fixtures, solder and flux. The Act established a prospective effective date of January 4, 2014, which provided a three-year timeframe for affected parties to transition to the new requirements. The Community Fire Safety Act of 2013 further amends Section 1417 to exempt fire hydrants. EPA in December of 2013 developed a summary document of answers to frequently asked questions that is intended to help the public understand the statutory requirements of the two pieces of legislation. To further clarify and refine these statutory requirements in a new rulemaking, EPA published a proposed rule on January 17, 2017 and expects to publish a final rule late in 2019 or early 2020.

The Federal Register Notice is available at:

<https://www.federalregister.gov/documents/2017/01/17/2017-00743/use-of-lead-free-pipes-fittings-fixtures-solder-and-flux-for-drinking-water>

Purpose and Objectives: The purpose of this work assignment is to support EPA's clarifications and extensions to the RLDWA in the rulemaking: "Use of Lead Free Pipes, Fittings, Fixtures, Solder and Flux for Drinking Water." This work supports the EPA Reduction of Lead in Drinking Water Implementation Rulemaking by providing the Agency with cost assessment, rulemaking support documents, comment summary and response documents, and other technical assistance that may include development of implementation support materials following rule publication.

Tasks and Deliverables:

The WA COR will review all deliverables in draft form and provide revisions or comments to the contractor. The contractor shall prepare the final deliverables incorporating the WA COR's comments. Final deliverables shall be in Microsoft Word or other appropriate electronic format requested.

Contractor personnel shall at all times identify themselves as Contractor employees and shall not present themselves as EPA employees. Furthermore, they shall not represent the views of the U.S. Government, EPA, or its employees. In addition, the Contractor shall not engage in inherently governmental activities, including but not limited to actual determination of EPA policy and preparation of documents on EPA letterhead.

The Contractor shall not duplicate any previously performed work.

QUALITY ASSURANCE(QA) REQUIREMENTS

The Contractor shall submit a written Quality Assurance Project Plan for any project that is developing environmental measurements or a Quality Assurance Supplement to the Quality Management Plan for any project which generates environmental data using models with their technical proposal.

Task 1 - Prepare Work Plan and Project Administration

The contractor shall prepare a Work Plan within 15 calendar days of receipt of a work assignment signed by the Contracting Officer (CO). The Work Plan shall outline, describe and include the technical approach, resources, timeline and due dates for deliverables, and a detailed cost estimate by task and a staffing plan.

The WA COR, CL COR and the CO will review the Work Plan. However, only the CO can approve/disapprove, suggest revisions, or change the Work Plan. Official revisions will be given to the contractor by the CO. The contractor shall prepare a revised Work Plan incorporating the CO's comments, if required.

Deliverables and schedule under Task 1

- 1a.** Work Plan within **15** calendar days of receipt of work assignment.
- 1b.** Revised Work Plan within **3** days of receipt of comments from the WA-COR, if required.

Task 2 - Provide Regulatory Flexibility Act (RFA) Technical Support for the Lead Free Rulemaking [Reference to Contract SOW; Section IIC, para(s) 1 & 3, page(s) 6-8]

Task 2.1 – Lead Free Small Business Model

The contractor shall update and revise the Lead Free RFA analysis. As a result of guidance and comment given during and through an anticipated OMB review, the current RFA analysis may need to be updated to include assessment of revenue impacts for different definitions of small entities under the rule. The definition of small entities incurring third party and self-certification costs will vary across NAICS codes. Also, an assessment of impact may need to be conducted based on product complexity requirements for third party and self-certification.

The contractor shall prepare draft deliverable spreadsheets for EPA WACOR review and approval.

Once the EPA WACOR reviews the draft spreadsheets and provides revisions and/or comments to the contractor, the contractor shall prepare a final version of the spreadsheets incorporating the EPA WACOR's comments.

For planning purposes, the contractor should assume three iterations on the spreadsheets: 2 drafts and 1 final.

Deliverables and schedule under Task 2.1

- 2.1a.** Draft RFA spreadsheet model changes and due dates TBD listed or modified by written technical direction.
- 2.1b.** Final RFA spreadsheet model changes due date listed or modified by written technical direction.

Task 2.2 - Lead Free Small Business Technical Support Document

Given final versions of the spreadsheets, the contractor shall revise the RFA report. The draft

revised report shall be delivered to the EPA WACOR for review and approval.

Once the EPA WACOR reviews the draft report and provides revisions and/or comments to the contractor, the contractor shall prepare a final version of the report incorporating the EPA WACOR's comments.

Deliverables and schedule under Task 2.2

For the report, assume two drafts and one final draft report.

2.2a. Draft revised RFA report due dates TBD listed or modified by written technical direction.

2.2b. Final RFA report due date listed or modified by written technical direction.

Task 3 - Small Business Legal Analysis [Reference to Contract SOW; Section IIE, page 9]

The contractor shall, based on technical direction given by the EPA WACOR, provide legal analysis support related to the rulemaking. Such legal support may include but is not limited to questions about self-certification, labeling, marking and international issues. The contractor may also be requested to participate in and/or conduct briefings, assisting Agency economists in their review of the legal analyses, providing technical review of materials prepared for the rulemaking by Agency staff, and assist in the development of the rulemaking record. The contractor may also be required to review and summarize documents prepared by outside groups and/or other EPA offices.

The contractor shall prepare draft deliverable material for EPA WACOR review and approval.

Once the EPA WACOR reviews the draft materials and provides revisions and/or comments to the contractor, the contractor shall prepare a final version of the materials incorporating the EPA WACOR's comments.

Deliverables and schedule under Task 3

3a. Draft deliverables and due dates TBD listed or delayed by written technical direction.

3b. Final deliverable due dates listed or delayed by written technical direction.

Task 4 - Revisions to the benefits chapter for the Technical Support Document [Reference to Contract SOW; Section IIB, para 4, page 5]

Under this task, the contractor, based on written technical direction from the EPA WACOR, shall revise the draft final rule Technical Support Document pertaining to the benefits of the Lead-Free Rule for use in supporting the final rule.

Under this task, the TSD report benefits chapter may need to be revised further in response to comments from management and OMB. All changes will be given to the contractors by written Technical Direction. After each set of significant revisions initiated by technical direction, the contractor shall supply that portion or chapter of the TSD to the EPA WACOR for further review.

Once the EPA WACOR provides revisions and/or comments to the contractor, the contractor shall incorporate the changes into the draft final rule TSD report benefits chapter.

The contractor should assume three iterations of each chapter: 2 drafts and 1 final.

Deliverables and schedule under Task 4

4a. Draft deliverables and due dates TBD listed or delayed by written technical direction.

4b. Final deliverable due dates listed or delayed by written technical direction.

Task 5 - Issue Papers and Technical Support [Reference to Contract SOW; Section IIC, para(s) 1 & 2, page 6-7]

The contractor shall develop issue papers and technical analyses as identified through written technical direction by the EPA WACOR. EPA anticipates that some issues may become high priority during the OMB review process and may require analytical support for internal Agency decision-making processes. Upon direction from the EPA WACOR, the contractor shall collect summary information on particular issues (e.g., manufacturing production practices), risk assessment background and status information, and perform preliminary cost-benefit analyses.

The contractor shall also develop final rule initial implementation support materials as identified through written technical direction by the EPA WACOR. Such rule initial implementation support materials may need to be developed to approximately coincide with final rule publication or following publication to aid in the early implementation period for the final rule.

The contractor shall assume three iterations of each document: 2 drafts and 1 final.

Deliverables and schedule under Task 5

5a. Draft deliverables and due dates TBD listed or delayed by written technical direction.

5b. Final deliverable due dates listed or delayed by written technical direction.

Summary of Deliverables and Dates:

1a. Workplan within 15 calendar days of receipt of work assignment.

1b. Revised workplan within 3 calendar days of receipt of comments from the Contracting Officer, if required.

2.1a. Draft RFA spreadsheet model changes and due dates TBD listed or modified by written technical direction.

2.1b. Final RFA spreadsheet model changes due date listed or modified by written technical direction.

2.2a. Draft revised RFA report due dates TBD listed or modified by written technical direction.

2.2b. Final RFA report due date listed or modified by written technical direction.

3a. Draft deliverables and due dates TBD listed or delayed by written technical direction.

3b. Final deliverable due dates listed or delayed by written technical direction.

4a. Draft deliverables and due dates TBD listed or delayed by written technical direction.

4b. Final deliverable due dates listed or delayed by written technical direction.

5a. Draft deliverables and due dates TBD listed or delayed by written technical direction.

5b. Final deliverable due dates listed or delayed by written technical direction.

Work Assignment Form. (WebForms v1.0)

WORK ASSIGNMENT
Statement of Work

Title: Lead and Copper Rule Revisions Support

Contractor: Abt Associates

Contract No.: EP-W-17-009

Work Assignment Number:

3-33

Estimated Period of Performance:

Date: (Issuance - September 10, 2020)

Estimated Level of Effort:

1640 hours

Work Assignment COR (WA COR):

Erik Helm

OGWDW/SRMD (4607M)

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Alternate Work Assignment COR:

Michael Goldberg

OGWDW/SRMD (4607M)

Phone: 202/564-1379

Email: goldberg.michael@epa.gov

Contract Level COR (CL COR):

Cheryl R. Brown

Office of Policy, Immediate Office (1805T)

Phone: 202-566-0940

Email: brown.cherylr@epa.gov

Background:

Under the Safe Drinking Water Act (SDWA), EPA sets public health goals and enforceable standards for drinking water quality. The Lead and Copper Rule (LCR) is a treatment technique rule. Instead of setting a maximum contaminant level (MCL) for lead or copper, the rule requires public water systems (PWSs) to take certain actions to minimize lead and copper in drinking water, to reduce water corrosivity and prevent the leaching of these metals from the premise plumbing and drinking water distribution system components and when that isn't enough, to remove lead service lines.

EPA is currently in the process of evaluating potential changes to the existing lead and copper rule. These regulatory changes may consist of modifications to the tiering criteria for lead and copper sampling sites, changes to requirements for lead service line replacement, changes and/or additions to existing corrosion control treatments, modifications to existing water quality parameter monitoring, and public education requirements.

Purpose and Objectives:

Under previous work assignments on EPA contracts EP-C-13-039 and EP-W-17-009 including WAs 1-11, 2-15, 2-22, 2-23 and 2-26, an initial set of analyses was performed to calculate the drinking water concentration of lead resulting in the defined increase in the probability of elevated blood lead levels. Several iterations of this analysis have been used with varying input parameters to investigate health impacts of the rule. A national level model has been developed to quantify the economic impact and benefits of proposed regulatory changes to the LCR. A number of additional modifications to these analyses are required in response to changes in management direction and OMB review for the proposed rule scheduled to be signed in the fall 2019. In addition, new methodological approaches may be required based on changing proposed regulatory requirements, EPA comments, and public comments based on the review of the proposed rule. The final rule is schedule to be completed in the winter or spring of 2020.

Tasks and Deliverables:

The WA COR will review all deliverables in draft form and provide revisions or comments to the contractor. The contractor shall prepare the final deliverables incorporating the WA COR's comments. Final deliverables shall be in Microsoft Word or other appropriate electronic format requested.

Contractor personnel shall at all times identify themselves as Contractor employees and shall not present themselves as EPA employees. Furthermore, they shall not represent the views of the U.S. Government, EPA, or its employees. In addition, the Contractor shall not engage in inherently governmental activities, including but not limited to actual determination of EPA policy and preparation of documents on EPA letterhead.

The Contractor shall not duplicate any previously performed work, specifically work performed under EP-C-13-039 and EP-W-17-009 WAs 1-11, 2-15, 2-22, 2-23 and 2-26.

QUALITY ASSURANCE(QA) REQUIREMENTS

This work assignment requires the use of secondary data. Collection, use and analysis of data shall be identical to the procedures described in the Project Specific Quality Assurance Project Plan (PQAPP) completed and approved by EPA under WA 2-15. This is consistent with the Agency's Quality Assurance (QA) requirements.

Task 1 - Prepare Work Plan and Project Administration

The contractor shall prepare a Work Plan within 15 calendar days of receipt of a work assignment signed by the Contracting Officer (CO). The Work Plan shall outline, describe and include the technical approach, resources, timeline and due dates for deliverables, and a detailed cost estimate by task and a staffing plan.

The WA COR, CL COR and the CO shall review the Work Plan. However, only the CO can approve/disapprove, suggest revisions, or change the Work Plan. Official revisions shall be given to the contractor by the CO. The contractor shall prepare a revised Work Plan incorporating the CO's comments, if required.

Deliverables and schedule under Task 1

1a. Work Plan within 15 calendar days of receipt of work assignment.

1b. Revised Work Plan within 3 days of receipt of comments from the WA-COR, if required.

Task 2 - Update the SafeWater Model to incorporate distribution system impact costs and child and adult benefits [Reference to Contract SOW; Section __C__, para(s) _1-4_, page(s) _6-8_]

The contractor shall, based on written technical direction from the EPA WACOR, continue the work started under contracts EP-C-13-039, and EP-W-17-009 (WA 2-15, 2-22, 2-23 and 2-26), and update the SafeWater model to support rule cost components that occur in water utility distribution systems of both Community Water Systems (CWSs) and Non-Transient Non-Community Water Systems (NTNCWSs), and CWSs that serve over one million people. SafeWater also includes the cost of treating effluent from Waste Water Treatment Plants (WWTPs) that have National Pollution Discharge Elimination (NPDES) permitting limits for total phosphorus may increase because of the potential use of phosphate in drinking water as a lead corrosion inhibitor. Model modifications may also include the development of strata that allow for the assessment of regulatory requirements that are triggered across public water system depending on the systems current water quality parameters.

The LCR proposed rule is scheduled to finalize in the fall of 2019 and shall contain regulatory options that might require proactive lead service line replacement, enhanced corrosion control, and sampling at households. Alterations to the model must be made to allow for the re-assessment of the costs impact of the potential regulatory requirements as they change in response to management and OMB input on the proposed rule.

The LCR Safewater model will need to be further updated based on comments received from the public, EPA management, and OMB review in preparation for the Final rulemaking which is scheduled for the winter or spring of 2020.

The contractor shall update the benefits model, based on written technical direction, to incorporate additional health endpoints or reassessed health endpoint values to the benefits analysis. In addition, the EPA WACOR shall give written technical direction for alterations to the benefits model that allow for the re-assessment of the impacts of the potential regulatory requirements as they change in response to public, management and OMB input on the proposed

and final rule.

For planning purposes, the contractor shall assume that there will be two drafts of the cost and benefits model prior to the proposed rule, and four drafts of the cost and benefits model for the final rule.

Deliverables and schedule under Task 2

2a. Updated Proposed Rule SafeWater cost model due October 4, 2019, or modified by written technical direction.

2b. Updated Proposed Rule SafeWater benefits model due October 4, 2019, or modified by written technical direction.

2c. Updated Final Rule SafeWater cost model due January 20, 2020, or modified by written technical direction.

2d. Updated Final Rule SafeWater benefits model due January 20, 2020, or modified by written technical direction.

2e. SafeWater cost model changes, based on comments from EPA WACOR, due dates listed or modified by written technical direction.

2f. SafeWater benefits model changes, based on comments from EPA WACOR, due dates listed or modified by written technical direction.

Task 3 - Development of Chapters of the Draft Technical Support Document for the Economic Costs, Impacts, and Benefits of the Lead and Copper Long Term Revisions Proposed Rule [Reference to Contract SOW; Section __C__, para(s) _1-4_, page(s) _6-8_]

The contractor shall, based on written technical direction from the EPA WACOR, continue the work started under contracts EP-C-13-039, and EP-W-17-009 (WA 2-15, 2-22, 2-23 and 2-26), and update chapters and sections of chapters for a draft Economic Analysis TSD. The chapters of the economic analysis TSD to be developed shall be:

- Health Effects
- Benefits Analysis
- National Economic Impact and Cost Analysis
- Comparison of Benefits and Costs

Sections of the economic baseline chapter supporting the cost benefit work and the administrative requirements chapter shall also need to be updated. The Administration Requirements chapter sections to be updated include the RFA Analysis, the UMRA Analysis, and the Executive Order 12866.

The LCR proposed rule is scheduled to finalize in the fall of 2019 and a number of updates to the draft Economic Analysis TSD report chapters and sections shall need to be completed based on comments from OW management and OMB. All changes shall be given to the contractors by written Technical Direction. After each set of significant revisions initiated by technical

direction, the contractor shall supply that portion or chapter of the TSD to the EPA WACOR for further review.

The LCR Final Economic Analysis TSD chapters and sections will need to be further updated based on comments received from the public, EPA management, and OMB review in preparation for the Final rulemaking which is scheduled for the winter or spring of 2020.

For planning purposes, the contractor shall assume that there will be two updates of the TSD chapters and sections prior to the proposed rule, and four drafts of the TSD chapters and sections for the final rule.

Deliverables and schedule under Task 3

3a. Updated Proposed Rule Technical Support Document chapter sections due October 7, 2019, or modified by written technical direction.

3b. Updated Final Rule Technical Support Document chapter sections due January 24, 2020, or modified by written technical direction.

3c. Technical Support Document chapter sections revisions, based on comments from EPA WACOR, due dates listed or modified by written technical direction.

Task 4 - Provide Technical Support for Rulemaking Activities [Reference to Contract SOW; Section __C__, para(s) _1-4_, page(s) _6-8_]

The contractor shall provide technical support related to health risk assessment, and economic cost and benefit assessment issues associated with the Perchlorate, Lead Free, PFAS and Lead and Copper rulemakings. Such support shall include conducting SafeWater runs, developing RFA reports, developing health effects documents, responding to management questions about economic and health impact issues, preparing briefing and meeting materials (the briefing and meeting materials may include but are not limited to short briefing documents, PowerPoint presentations, and memoranda). The contractor shall also participate in and/or conduct briefings, assisting Agency economists in their review of analyses conducted by EPA and its contractors, providing technical review of materials prepared for the rulemaking by Agency staff, and assist in the development of the rulemaking record.

The contractor shall prepare draft deliverable material for EPA WACOR review and approval.

Once the EPA WACOR reviews the draft materials and provides revisions and/or comments to the contractor, the contractor shall prepare a final version of the materials incorporating the EPA WACOR's comments.

For planning purposes, the contractor shall assume 15 quick turnaround tasks that would include document review and summarizing, single spreadsheets, and bulleted memos, and 5 tasks that have longer timeframes to complete which would include long memos and multipage

spreadsheets.

Deliverables and schedule under Task 4

4a. Draft deliverables and due dates TBD listed or modified by written technical direction.

4b. Final deliverable due dates listed or modified by written technical direction.

Summary of Deliverables and Dates:

1a. Workplan within 15 calendar days of receipt of work assignment.

1b. Revised workplan within 3 calendar days of receipt of comments from the Contracting Officer, if required.

2a. Updated Proposed Rule SafeWater cost model due October 4, 2019, or modified by written technical direction.

2b. Updated Proposed Rule SafeWater benefits model due October 4, 2019, or modified by written technical direction.

2c. Updated Final Rule SafeWater cost model due January 20, 2020, or modified by written technical direction.

2d. Updated Final Rule SafeWater benefits model due January 20, 2020, or modified by written technical direction.

2e. SafeWater cost model changes, based on comments from EPA WACOR, due dates listed or modified by written technical direction.

2f. SafeWater benefits model changes, based on comments from EPA WACOR, due dates listed or modified by written technical direction.

3a. Updated Proposed Rule Technical Support Document chapter sections due October 7, 2019, or modified by written technical direction.

3b. Updated Final Rule Technical Support Document chapter sections due January 24, 2020, or modified by written technical direction.

3c. Technical Support Document chapter sections revisions, based on comments from EPA WACOR, due dates listed or modified by written technical direction.

4a. Draft deliverables and due dates TBD listed or modified by written technical direction.

4b. Final deliverable due dates listed or modified by written technical direction.

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment						Work Assignment Number 3-34				
						<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:				
Contract Number EP-W-17-009			Contract Period 02/11/2017 To 09/10/2020 Base Option Period Number 3			Title of Work Assignment/SF Site Name Lead and Copper Rule EJ & ICR				
Contractor Abt Associates Inc.					Specify Section and paragraph of Contract SOW Sec. II, para C pg(s) 6-7, para D, pg(s) 8-11					
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval						Period of Performance From 09/11/2019 To 09/10/2020				
Comments: The purpose of this action is to initiate WA 3-34 under ABT Contract EP-W-17-009. The Contractor shall submit an estimated work plan and an estimated budget in accordance with the Contract. See the attached Statement of Work.										
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
SFO <input type="checkbox"/> (Max 2)										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period: Cost/Fee: LOE: 02/11/2017 To 09/10/2020										
This Action: 										
Total:										
Work Plan / Cost Estimate Approvals										
Contractor WP Dated: Cost/Fee LOE:										
Cumulative Approved: Cost/Fee LOE:										
Work Assignment Manager Name Jessica Georges <div style="display: flex; justify-content: space-between;"> <div>_____</div> <div>_____</div> </div> <div style="display: flex; justify-content: space-between;"> <div>(Signature)</div> <div>(Date)</div> </div>							Branch/Mail Code: Phone Number: 202-564-0966 FAX Number:			
Project Officer Name Cheryl R. Brown <div style="display: flex; justify-content: space-between;"> <div>_____</div> <div>_____</div> </div> <div style="display: flex; justify-content: space-between;"> <div>(Signature)</div> <div>(Date)</div> </div>							Branch/Mail Code: Phone Number: 202-566-0940 FAX Number:			
Other Agency Official Name <div style="display: flex; justify-content: space-between;"> <div>_____</div> <div>_____</div> </div> <div style="display: flex; justify-content: space-between;"> <div>(Signature)</div> <div>(Date)</div> </div>							Branch/Mail Code: Phone Number: FAX Number:			
Contracting Official Name Genine McElroy <div style="display: flex; justify-content: space-between;"> <div>_____</div> <div>_____</div> </div> <div style="display: flex; justify-content: space-between;"> <div>(Signature)</div> <div>(Date)</div> </div>							Branch/Mail Code: Phone Number: 202-564-4746 FAX Number:			

WORK ASSIGNMENT
Statement of Work

Title: Lead and Copper Rule (LCR) Environmental Justice (EJ) & Information Collection Request (ICR)

Contractor: Abt Associates

Contract No.: EP-W-17-009

Work Assignment Number:

3-34

Estimated Period of Performance:

Date: September 11, 2019 - September 10, 2020

Estimated Level of Effort:

344 hours

Work Assignment COR (WA COR):

Name: Jessica Georges
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Alternate Work Assignment COR:

Name: Iliriana Mushkolaj
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Contract Level COR (CL COR):

Cheryl R. Brown
Office of Policy, Immediate Office (1805T)
Phone: 202-566-0940
Email: brown.cheryl@epa.gov

Background: Environmental Justice (EJ) is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. This is EPA's goal for all communities and persons in the United States. EJ will be achieved when everyone experiences the same degree of protection from environmental and health hazards and equal access to the decision-making process to have a healthy environment in which to live, learn, and work.

Executive Order 12898 (59 FR 7629, February 16, 1994), signed by President Bill Clinton, establishes federal executive policy on EJ. Its main provision directs federal agencies, to the greatest extent practicable and permitted by law, to make EJ part of their mission. Agencies must do this by identifying and addressing as appropriate any disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States. As part of the Agency's initiative, EPA has committed to incorporate EJ into EPA's regulatory process. The Agency is currently

revising the Lead and Copper Rule (LCR).

Purpose and Objectives: The purpose of this work assignment is to provide supporting analyses including estimates for burden and cost during the initial three-year period after the LCR final rule. In addition, this work assignment provides support for the LCR by identifying and addressing as appropriate environmental justice issues. The goal of the LCR is to improve public health protection by reducing exposure to lead and copper in drinking water and the associated health risks from this exposure. The Lead and Copper Rule Revision maintains and strengthens the objectives of the Current LCR by making substantive changes based on topics that were identified in the 2004 National Review and stakeholder meetings that included monitoring, corrosion control treatment (CCT), lead service line replacement (LSLR), and public education for lead and copper.

Tasks and Deliverables:

The WA COR will review all deliverables in draft form and provide revisions or comments to the contractor. The contractor shall prepare the final deliverables incorporating the WA COR's comments. Final deliverables shall be in Microsoft Word or other appropriate electronic format requested.

Contractor personnel shall at all times identify themselves as Contractor employees and shall not present themselves as EPA employees. Furthermore, they shall not represent the views of the U.S. Government, EPA, or its employees. In addition, the Contractor shall not engage in inherently governmental activities, including but not limited to actual determination of EPA policy and preparation of documents on EPA letterhead.

The Contractor shall not duplicate any previously performed work. **The Contractor shall be in compliance with OMB Information Collection and Paperwork reduction Act.**

QUALITY ASSURANCE(QA) REQUIREMENTS

The Contractor shall submit a written Quality Assurance Project Plan for any project that is developing environmental measurements or a Quality Assurance Supplement to the Quality Management Plan for any project which generates environmental data using models with their technical proposal.

Task 1 - Prepare Work Plan and Project Administration

The contractor shall prepare a Work Plan within 15 calendar days of receipt of a work assignment signed by the Contracting Officer (CO). The Work Plan shall outline, describe and include the technical approach, resources, timeline and due dates for deliverables, and a detailed cost estimate by task and a staffing plan.

The WA COR, CL COR and the CO will review the Work Plan. However, only the CO can

approve/disapprove, suggest revisions, or change the Work Plan. Official revisions will be given to the contractor by the CO. The contractor shall prepare a revised Work Plan incorporating the CO's comments, if required.

Deliverables and schedule under Task 1

- 1a.** Work Plan within **15** calendar days of receipt of work assignment.
- 1b.** Revised Work Plan within **3** days of receipt of comments from the WA-COR, if required.

Task 2 – Information Collection Request Reference to Contract SOW; [Section II, para C page(s) 6-7]

The Information Collection Request (ICR) will estimate the impact the revisions to the LCR in terms of the burden and costs for the first three years after the final rule is published. The burden and cost estimates represent activities that are expected to occur in the first three-year period. During this three-year period, it is assumed that systems and states would have to engage in activities to meet the related rule review and primacy requirements. However, since implementation does not begin during the initial three-year period, the ICR will not include burden and costs for activities that are required during full rule implementation. The contractor shall develop the ICR for the Lead and Copper Rule Revision. This includes but is not limited to developing the supporting statement for burden estimates generated by the SafeWater CBX simulation.

Deliverables and schedule under Task 2

- 2a.** Draft deliverables and due dates TBD listed or delayed by written technical direction.
- 2b.** Final deliverable due dates listed or delayed by written technical direction.

The contractor shall assume three iterations of each document: 2 drafts and 1 final.

Task 3 – Environmental Justice (EJ) [Reference to Contract SOW; Section II, para D, page(s) 8-11]

The Environmental Justice (EJ) analysis supports the Lead and Copper Revision Rule by providing the Agency with case studies, GIS maps, and other technical assistance. This work describes the relationship between the distribution of demographic groups and the distribution of environmental health risks from exposure to lead in drinking water from LSLs, which may change due to the different requirements for LSLRs under the Current and Proposed Rules. The contractor shall develop issue papers and technical analyses as identified through written technical direction by the EPA WACOR pertaining to the Environmental Justice Analysis (EJA)

for the Lead and Copper Revision Rule. EPA anticipates that some issues may become high priority during this review process and may require analytical support for internal Agency decision-making processes. Upon direction from the EPA WACOR, the contractor shall collect summary information on particular issues related to environmental justice. In addition, the contractor shall develop and prepare deliverables of the EJA report and preamble language for the Federal Register Notice for the Lead and Copper Rule Revision Rule.

Deliverables and schedule under Task 3

3a. Draft deliverables and due dates TBD listed or delayed by written technical direction.

3b. Final deliverable due dates listed or delayed by written technical direction.

The contractor shall assume three iterations of each document: 2 drafts and 1 final.

Summary of Deliverables and Dates:

1a. Workplan within 15 calendar days of receipt of work assignment.

1b. Revised workplan within 3 calendar days of receipt of comments from the Contracting Officer, if required.

2a. Draft deliverables and due dates TBD listed or delayed by written technical direction.

2b. Final deliverable due dates listed or delayed by written technical direction.

3a. Draft deliverables and due dates TBD listed or delayed by written technical direction.

3b. Final deliverable due dates listed or delayed by written technical direction.

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment		Work Assignment Number 3-35								
		<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:								
Contract Number EP-W-17-009		Contract Period 02/11/2017 To 09/10/2020 Base Option Period Number 3								
Contractor Abt Associates Inc.		Title of Work Assignment/SF Site Name Technical Support for Perchlor								
Specify Section and paragraph of Contract SOW Sec B, para(s) 2,3&4, pg(s) 4&5-Sec E, para(s) 1										
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval		Period of Performance From 09/11/2019 To 09/10/2020								
Comments: The purpose of this action is to initiate Work Assignment 3-35 under ABT Contract EP-W-17-009. The Contractor shall submit and estimated work plan and an estimated budget in accordance with the contract. See the attached Statement of Work.										
<input type="checkbox"/> Superfund		Accounting and Appropriations Data								
		<input checked="" type="checkbox"/> Non-Superfund								
Note: To report additional accounting and appropriations date use EPA Form 1900-69A.										
SFO <input type="checkbox"/> (Max 2)										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period: 02/11/2017 To 09/10/2020		Cost/Fee:		LOE:						
This Action:										
Total:										
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:		Cost/Fee		LOE:						
Cumulative Approved:		Cost/Fee		LOE:						
Work Assignment Manager Name Samuel Hernandez							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number: 202-564-1735			
							FAX Number:			
Project Officer Name Cheryl R. Brown							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number: 202-566-0940			
							FAX Number:			
Other Agency Official Name							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number:			
							FAX Number:			
Contracting Official Name Genine McElroy							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number: 202-564-4746			
							FAX Number:			

WORK ASSIGNMENT
Statement of Work

Title: Technical Support for Perchlorate Rulemaking Activities

Contractor: Abt Associates

Contract No.: EP-W-17-009

Work Assignment Number:

3-35

Estimated Period of Performance:

Date: September 11, 2019 - September 10, 2020

Estimated Level of Effort:

800 hours

Work Assignment COR (WA COR):

Samuel Hernandez

Office of Water/OGWDW/SRMD (4607M)

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Contract Level COR (CL COR):

Cheryl R. Brown

Office of Policy, Immediate Office (1805T)

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Background:

Perchlorate

Perchlorate is an inorganic ion (ClO₄⁻) occurring primarily as a salt. Perchlorate occurs naturally in calcium carbonate deposits in arid regions (e.g., parts of the western US) and via atmospheric processes. People are exposed to perchlorate through both food and drinking water. Perchlorate interferes with the thyroid gland by inhibiting iodide uptake. Reduced iodide uptake by the thyroid impacts the amount of thyroid hormones produced. Thyroid hormones are critical for normal growth and development. Poor iodide uptake and subsequent impairment of thyroid function in pregnant women are linked to delayed development and decreased learning capacity in infants and children.

On February 11, 2011 (76 FR 7762), EPA announced its decision to regulate perchlorate based on its finding that perchlorate meets the Safe Drinking Water Act's (SDWA) three criteria for regulating a contaminant:

- Perchlorate may have adverse health effects,
- There is a substantial likelihood that perchlorate occurs with frequency at levels of health concern in public water systems, and
- There is a meaningful opportunity to reduce risk through a drinking water regulation.

On May 23, 2019, EPA released a notice of proposed rulemaking seeking comment on a

proposed National Primary Drinking Water Regulation for perchlorate to establish a Maximum Contaminant Level (MCL) and a health-based Maximum Contaminant Level Goal (MCLG) at 56 micrograms per liter. In addition, the agency requested comment on three alternative regulatory options:

- An MCL and MCLG for perchlorate set at 18 micrograms per liter.
- An MCL and MCLG for perchlorate set at 90 micrograms per liter.
- Withdrawal of the agency's 2011 determination to regulate perchlorate in drinking water.

Purpose and Objectives:

In accordance with SDWA, the Agency requested EPA's Science Advisory Board (SAB) to review how to consider available data in deriving a Maximum Contaminant Level Goal (MCLG). The MCLG is a non-enforceable goal defined under the SDWA as "the level at which no known or anticipated adverse effects on the health of persons occur and which allows an adequate margin of safety." for a perchlorate National Primary Drinking Water Regulation. The SAB released its final report on May 29, 2013 and recommended that EPA "derive a perchlorate MCLG that addresses sensitive life stages through physiologically-based pharmacokinetic/pharmacodynamic (PBPK/PD) modeling."

Food and Drug Administration (FDA) and EPA scientists developed a BBDR (biologically-based dose-response) model to determine under what conditions of iodine nutrition and exposure to perchlorate across sensitive lifestages would experience low serum free and total thyroxine (hypothyroxinemia).

EPA began the process of deriving a perchlorate MCLG by linking model output to information from literature to account for adverse health outcomes under WA 4-96 of Abt Contract EP-W-11-003 and WA 3-32 of Abt Contract EP-C-13-039. Under this work assignment the contractor shall continue to assist EPA in the development of the Perchlorate MCLG (not duplicating any work previously completed under WA 4-96 of contract EP-W-11-003 or WA 3-32 of contract EP-C-13-039). Additionally, the contractor will assist EPA in the development of a Health effects support document for the Perchlorate rulemaking activities.

EPA expects that significant efforts will be associated with responding to public comments on the proposed perchlorate rule and the proposed alternatives. Contractor support in responding to technical issues regarding the health effects of perchlorate are critical to ensure that the rulemaking efforts are met within the court mandated deadlines imposed on the agency by the perchlorate consent decree.

Tasks and Deliverables:

The WA COR will review all deliverables in draft form and provide revisions or comments to the contractor. The contractor shall prepare the final deliverables incorporating the WA COR's comments. Final deliverables shall be in Microsoft Word or other appropriate electronic format

requested.

Contractor personnel shall at all times identify themselves as Contractor employees and shall not present themselves as EPA employees. Furthermore, they shall not represent the views of the U.S. Government, EPA, or its employees. In addition, the Contractor shall not engage in inherently governmental activities, including but not limited to actual determination of EPA policy and preparation of documents on EPA letterhead.

The Contractor shall not duplicate any previously performed work.

QUALITY ASSURANCE(QA) REQUIREMENTS

The Contractor shall submit a written Quality Assurance Project Plan for any project that is developing environmental measurements or a Quality Assurance Supplement to the Quality Management Plan for any project which generates environmental data using models with their technical proposal.

Tasks 2 and 3 in this work assignment require the use of secondary data. Collection, use, and analysis of data will be identical to the procedures described in the Project Specific Quality Assurance Project Plan (PQAPP), completed under task 2 of WA 2-32, EPA Contract EP-C-13-039, consistent with the Agency's Quality Assurance requirements. EPA has determined that this approved PQAPP is appropriate for the tasks outlined in this Performance Work Statement. The work described for Tasks 2 and 3 in this work assignment are covered by Task 2 in the original PQAPP (WA 2-32). The project specific QA requirements must be addressed in the work plan and monthly progress reports as specified under Task 1.

Task 1 - Prepare Work Plan and Project Administration

The contractor shall prepare a Work Plan within 15 calendar days of receipt of a work assignment signed by the Contracting Officer (CO). The Work Plan shall outline, describe and include the technical approach, resources, timeline and due dates for deliverables, and a detailed cost estimate by task and a staffing plan.

The WA COR, CL COR and the CO will review the Work Plan. However, only the CO can approve/disapprove, suggest revisions, or change the Work Plan. Official revisions will be given to the contractor by the CO. The contractor shall prepare a revised Work Plan incorporating the CO's comments, if required.

Deliverables and schedule under Task 1

- 1a.** Work Plan within **15** calendar days of receipt of work assignment.

1b. Revised Work Plan within **3** days of receipt of comments from the WA-COR, if required.

Task 2 - Perchlorate Health Effect Support Documents (Section B, para(s) 2,3&4, page(s) 4&5)

Under this work assignment, the contractor shall update the Health Effect Support Documents (e.g. Perchlorate MCLG Approaches Report, MCLG Derivation Document, Technical Responses to Public Comments, Technical input to Federal Register Preambles) as requested by the EPA WACOR.

Once the EPA WACOR has commented on the revised support documents, the contractor shall prepare draft deliverable revised documents for EPA WACOR's review and approval.

Once the EPA WACOR reviews the draft documents and provides revisions and/or comments to the contractor, the contractor shall prepare a final version of the documents incorporating the EPA WACOR's comments.

Deliverables and schedule under task 2

2.a. Drafts of the support documents due date to be determined (TBD) by written technical direction.

2.b. Final Draft of support documents due date (TBD) by written technical direction

Task 3 – Develop Perchlorate Health Effects Analysis and Provide Technical Support for Rulemaking Activities (Section B, para(s) 2,3&4, page(s) 4&5) (Section E, para(s) 1, page(s) 9&10)

The contractor shall provide technical support related to the regulatory development process, the development of the MCLG, and the health assessment and benefit assessment issues associated with the Perchlorate rulemaking. Such support may include developing regulatory reports, developing health effects documents, responding to management questions about health impact issues, preparing briefing and meeting materials (which may include but are not limited to short briefing documents, PowerPoint presentations, and memoranda). The contractor may also be requested to participate in and/or conduct briefings, assisting Agency staff in their review of analyses conducted by EPA and its contractors, providing technical review of materials prepared for the rulemaking by Agency staff, and assist in the development of the rulemaking record. In addition, the contractor shall prepare responses, as assigned by the EPA WACOR, on technical issues regarding the health effects from perchlorate exposure, raised by the public during the public comment period on the proposed perchlorate rulemaking action. For planning purposes, the contractor shall assume that approximately 200 technical comments regarding the basis for the perchlorate proposal will have to be responded during the comment period.

The contractor shall prepare draft deliverable material for EPA WACOR review and approval.

Once the EPA WACOR reviews the draft materials and provides revisions and/or comments to the contractor, the contractor shall prepare a final version of the materials incorporating the EPA WACOR's comments.

For planning purposes, assume participating/assisting in 3 to 5 briefings. For the Health Effects support document assume it would be comprised of approximately 50 to 75 pages. For the technical support activities assume 10 quick turnaround tasks that would include document review and summarizing, single spreadsheets, and bulleted memos, and 5 tasks that have longer timeframes to complete which would include long memos and multipage spreadsheets.

Deliverables and schedule under Task 3

3.a. Draft deliverables and due dates TBD listed or modified by written technical direction.

3.b. Final deliverable due dates listed or modified by written technical direction.

Summary of Deliverables and Dates:

1a. Workplan within 15 calendar days of receipt of work assignment.

1b. Revised workplan within 3 calendar days of receipt of comments from the Contracting Officer, if required.

2a. Drafts of the support documents due date to be determined (TBD) by written technical direction.

2b. Final Draft of the support documents due date (TBD) by written technical direction

3.a. Draft deliverables and due dates TBD listed by written technical direction.

3.b. Final deliverable due dates provided by written technical direction.

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment		Work Assignment Number 3-36								
		<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:								
Contract Number EP-W-17-009		Contract Period 02/11/2017 To 09/10/2020 Base Option Period Number 3								
Contractor Abt Associates Inc.		Title of Work Assignment/SF Site Name NEI Nonpoint tool development								
Specify Section and paragraph of Contract SOW Section B, para 1, page 4										
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval		Period of Performance From 09/11/2019 To 09/10/2020								
Comments: The purpose of this action is to initiate Work Assignment 3-36 under Abt Contract EP-W-17-009. The Contractor shall submit an estimated work plan and an estimated budget in accordance with the Contract. See the attached Statement of Work.										
<input type="checkbox"/> Superfund		Accounting and Appropriations Data								
		<input checked="" type="checkbox"/> Non-Superfund								
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
SFO <input type="checkbox"/> (Max 2)										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee:		LOE:						
02/11/2017 To 09/10/2020										
This Action:										
Total:										
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:		Cost/Fee		LOE:						
Cumulative Approved:		Cost/Fee		LOE:						
Work Assignment Manager Name Rich Mason						Branch/Mail Code:				
_____ (Signature) (Date)						Phone Number: 919-541-3405				
						FAX Number:				
Project Officer Name Cheryl R. Brown						Branch/Mail Code:				
_____ (Signature) (Date)						Phone Number: 202-566-0940				
						FAX Number:				
Other Agency Official Name						Branch/Mail Code:				
_____ (Signature) (Date)						Phone Number:				
						FAX Number:				
Contracting Official Name Genine McElroy						Branch/Mail Code:				
_____ (Signature) (Date)						Phone Number: 202-564-4746				
						FAX Number:				

WORK ASSIGNMENT
Statement of Work

Title: NEI Nonpoint tool development and support

Contractor: Abt Associates

Contract No.: EP-W-17-009

Work Assignment Number:

WA 3-36

Estimated Period of Performance:

Date: September 11, 2019 - September 10, 2020

Estimated Level of Effort:

598 hours

Work Assignment COR (WA COR):

Richard Mason
OAR/OAQPS/AQAD/EIAG
919-541-3405
Email: mason.rich@epa.gov

**Alternate Work Assignment
(Alt WA COR)**

Venkatesh Rao
OAR/OAQPS/AQAD/EIAG
919-541-1173
Rao.Venkatesh@epa.gov

Contract Level COR (CL COR):

Cheryl R. Brown
Office of Policy, Immediate Office (1805T)
Phone: 202-566-0940
Email: brown.cheryl@epa.gov

Background:

The Emission Inventory and Analysis Group (EIAG) produces the National Emission Inventory (NEI) for criteria and hazardous air pollutants (HAPs) for various years. These data are needed by States, Locals and Tribes (SLTs) to evaluate emissions trends in each SLT and to compare emission trends between SLTs. The NEI is also used as a basis for various EPA modeling and regulatory analyses. Finally, the NEI contains the data used to produce the National Air Pollutant Emission Trends report.

Purpose and Objectives:

The purpose of this work assignment is to produce a set of tools with robust documentation and operation instructions with estimates that can be used for the next NEI triennial inventory for calendar year 2017, and tools optimized in such a way that they can serve as a template for additional calendar years as activity data becomes available. (The term “nonpoint” is used to include what has been traditionally called “area” sources in the criteria inventories. For hazardous air pollutants (HAPs), “area sources” has a statutory meaning related to how a source is regulated. Therefore, we use the term “nonpoint” to include stationary sources that do not have

a known latitude/longitude location.). In addition, the contractor shall respond to information requests.

Tasks and Deliverables:

The WA COR will review all deliverables in draft form and provide revisions or comments to the contractor. The contractor shall prepare the final deliverables incorporating the WA COR's comments. Final deliverables shall be in Microsoft Word, Microsoft Excel, ASCII CSV, or other appropriate electronic format requested.

Contractor personnel shall at all times identify themselves as Contractor employees and shall not present themselves as EPA employees. Furthermore, they shall not represent the views of the U.S. Government, EPA, or its employees. In addition, the Contractor shall not engage in inherently governmental activities, including but not limited to actual determination of EPA policy and preparation of documents on EPA letterhead.

The Contractor shall not duplicate any previously performed work.

QUALITY ASSURANCE(QA) REQUIREMENTS

The Contractor shall submit a written Quality Assurance Project Plan for any project that is developing environmental measurements or a Quality Assurance Supplement to the Quality Management Plan for any project which generates environmental data using models with their technical proposal.

Task 1 - Prepare Work Plan and Project Administration

The contractor shall prepare a Work Plan within 15 calendar days of receipt of a work assignment signed by the Contracting Officer (CO). The Work Plan shall outline, describe and include the technical approach, resources, timeline and due dates for deliverables, and a detailed cost estimate by task and a staffing plan.

The WA COR, CL COR and the CO will review the Work Plan. However, only the CO can approve/disapprove, suggest revisions, or change the Work Plan. Official revisions will be given to the contractor by the CO. The contractor shall prepare a revised Work Plan incorporating the CO's comments, if required.

Deliverables and schedule under Task 1

- 1a.** Work Plan within **15** calendar days of receipt of work assignment.
- 1b.** Revised Work Plan within **3** days of receipt of comments from the WA-COR, if required.

Task 2 – Completion of final 2017 NEI Nonpoint products and support [Reference to Contract SOW; Section B, para 1, page 4]

The contractor shall complete all final Wagon Wheel (WW) modules reflecting SLT inputs that have been fully quality-assured. The contractor shall generate and present final graphic and spreadsheet analysis products in support of monthly Nonpoint Method Advisory (NOMAD) committee Skype meetings with stakeholders and the WA COR. The contractor shall assist the WA COR in reconciling all Nonpoint Emissions Methodology and Operator instructions (NEMO) into a 508-compliant format for the final 2017 NEI Technical Support Documentation (TSD).

The contractor shall download all PM augmentation tool profile assignments and factors into two relational ASCII datasets: one mapping SCCs to controlled and uncontrolled profiles with accompanying obtainable references, and a second mapping each profile to each PM component.

The contractor shall assist the EPA in responding to SLT questions on WW instructions, methodology and results and be available to make any modifications needed prior to posting on the public NEI site with the public release in April 2020.

The contractor shall make additional initial modifications to the WW that are known to be needed for the 2020 NEI, including but limited to, per WA COR direction, making sure all expected pollutants are generated for every SCC in the WW, to remove the need for HAP Augmentation on the resulting WW outputs. The contractor shall compare all WW emission factors to those in AP-42 and begin to scope out sources where newer emission factors likely exist and compile those new detailed references. The contractor shall compile a list of SLT-suggested improvements based on materials posted on SharePoint during the 2017 development cycle and estimate level of effort necessary for WW modifications for the 2020 NEI.

Deliverables and schedule under Task 2

- 2a.** Finalize final WW with QA'd SLT inputs and latest EPA defaults by 2/28/2020.
- 2b.** Provide 508-compliant documentation of all WW NEMOs for 2017 NEI TSD by 3/15/2020.
- 2c.** Produce two relational ASCII databases of PM augmentation factors with obtainable references by 4/30/2020.
- 2d.** Make initial WW modifications in preparation for 2020 NEI based on known tabled-issues from the 2017 NEI development cycle by 9/1/2020.

Task 3 – Support for sectors done outside of the WW Approach and looking forward to the 2020 NEI [Reference to Contract SOW; Section B, para 1, page 4]

The contractor shall be prepared to complete all work related to the livestock waste sector as it

relates to development of 2017 emission estimates via use of a refined-CMU model. This would include: 1) answering any WA COR-forwarded questions from SLTs on the approach and resulting estimates, 2) improving the livestock waste documentation based on these comments, and 3) resolving any last-minute errors that are found in the estimates or methods.

As directed by the WA COR, the contractor shall begin to scope out the agricultural silage (VOC emissions only) sector methods for the 2020 NEI.

Deliverables and schedule under Task 3

3a. Finalize 2017 livestock waste emission estimates and documentation by 2/28/2020.

3b. Compile ag silage methods for consideration in 2020 NEI development by 9/1/2020.

Summary of Deliverables and Dates:

1a. Workplan within 15 calendar days of receipt of work assignment.

1b. Revised workplan within 3 calendar days of receipt of comments from the Contracting Officer, if required.

2a. Finalize final WW with QA'd SLT inputs and latest EPA defaults by 2/28/2020.

2b. Provide 508-compliant documentation of all WW NEMOs for 2017 NEI TSD by 3/15/2020.

2c. Produce two relational ASCII databases of PM augmentation factors with obtainable references by 4/30/2020.

2d. Make initial WW modifications in preparation for 2020 NEI based on known tabled-issues from the 2017 NEI development cycle by 9/1/2020.

3a. Finalize 2017 livestock waste emission estimates and documentation by 2/28/2020.

3b. Compile ag silage methods for consideration in 2020 NEI development by 9/1/2020.

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment		Work Assignment Number 3-37	
		<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:	
Contract Number EP-W-17-009		Contract Period 02/11/2017 To 09/10/2020 Base Option Period Number 3	
Contractor Abt Associates Inc.		Title of Work Assignment/SF Site Name BenSPLASH Avoided Cost Modelin	
Contractor Abt Associates Inc.		Specify Section and paragraph of Contract SOW Sect E. para 1, pg 9, Sect C-4 paral, pg 8	
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval		Period of Performance From 09/24/2019 To 09/10/2020	
Comments: The purpose of this action is to initiate Work Assignment 3-37 under ABT Contract EP-W-17-009. The Contractor shall submit an estimated work plan and an estimated budget in accordance with the Contract. See the attached Statement of Work.			
<input type="checkbox"/> Superfund		Accounting and Appropriations Data	
		<input checked="" type="checkbox"/> Non-Superfund	
Note: To report additional accounting and appropriations date use EPA Form 1900-69A.			
SFO <input type="checkbox"/> (Max 2)			
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)
	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)
	Amount (Dollars)	(Cents)	Site/Project (Max 8)
	Cost Org/Code		
1			
2			
3			
4			
5			
Authorized Work Assignment Ceiling			
Contract Period: 02/11/2017 To 09/10/2020		Cost/Fee: LOE:	
This Action:			
Total:			
Work Plan / Cost Estimate Approvals			
Contractor WP Dated:		Cost/Fee LOE:	
Cumulative Approved:		Cost/Fee LOE:	
Work Assignment Manager Name Joel Corona _____ (Signature) (Date)		Branch/Mail Code: Phone Number: 202-564-0006 FAX Number:	
Project Officer Name Cheryl R. Brown _____ (Signature) (Date)		Branch/Mail Code: Phone Number: 202-566-0940 FAX Number:	
Other Agency Official Name _____ (Signature) (Date)		Branch/Mail Code: Phone Number: FAX Number:	
Contracting Official Name Genine McElroy _____ (Signature) (Date)		Branch/Mail Code: Phone Number: 202-564-4746 FAX Number:	

**WORK ASSIGNMENT
Statement of Work**

Title: BenSPLASH Avoided Cost Modeling Support

Contractor: Abt Associates

Contract No.: EP-W-17-009

Work Assignment Number:

3-37

Estimated Period of Performance:

Date: Issuance to September 10, 2020

Estimated Level of Effort:

750 hours

Work Assignment COR (WA COR):

Joel Corona

U.S. EPA, Office of Water
1200 Pennsylvania Ave., N.W., 4101M
Washington, DC 20460
Phone: (202) 564-0006
Email: corona.joel@epa.gov

Alternate WA COR:

Michael Trombley

U.S. EPA, Office of Water
1200 Pennsylvania Ave., N.W., 4101M
Washington, DC 20460
Phone: (202) 564-3906
Email : trombley.michael@epa.gov

Contract Level COR (CL COR):

Cheryl R. Brown

Office of Policy, Immediate Office (1805T)
Phone: 202-566-0940
Email: brown.cheryl@epa.gov

Background: The 1972 Clean Water Act (CWA) directs the Environmental Protection Agency (EPA or Agency) to develop national technology-based regulations for categories of industries that discharge pollutants directly to surface waters (effluent guidelines (ELGs) or that discharge pollutants indirectly through sewage treatment plants (pretreatment standards). The CWA also directs EPA to develop national technology-based regulations for new industrial facilities (new source performance standards).

Under Executive Orders 12866 and 13563, EPA is required to estimate the potential benefits and costs to society. As such, the purpose of this Work Assignment (WA) is to support the development of tools that can be used to provide such estimates.

Under this Work Assignment, the contractor shall conduct all analyses requiring the collection and manipulation of data and models in accordance with the EPA-approved quality assurance

project plan (QAPP). The QAPP shall describe the procedures for assuring the quality of the primary and secondary environmental, economic, and other data used for this work assignment.

Work conducted under this WA shall not duplicate work conducted under any other TO or WA under any other contract. The EPA WACOR will provide all technical direction related to this work in writing.

Purpose and Objectives: In 2015 the U.S. EPA contracted with a developer to create a demonstration version of a national water quality benefits platform (aka “NWQB” and “the Platform”). Such a Platform can support analysis of nitrogen deposition as in the Clean Air Act NAAQS example above, as well as support U.S. EPA needs under the Clean Water Act. The U.S. EPA is currently developing an open-source, open-access tool named BenSPLASH (Benefits Spatial PLatform for Assessing Surface Water Hydrology) based primarily off of the NWQB.

This work assignment supports further development of the BenSPLASH tool from existing sources to create a module that the U.S. EPA and other interested parties can use to analyze, quantify, and monetize regional and national impacts related to different benefits categories, in particular drinking water avoided costs. This module will be developed within an open-source software framework which will be made publicly available and designed to work as an element of BenSPLASH. In addition to coordination and direction from the WACOR, the contractor will be required to work with other parties determined by the WACOR to further and adhere to a development framework for future BenSPLASH module development.

Tasks and Deliverables:

The WA COR will review all deliverables in draft form and provide revisions or comments to the contractor. The contractor shall prepare the final deliverables incorporating the WA COR's comments. Final deliverables shall be in Microsoft Word or other appropriate electronic format requested.

Contractor personnel shall at all times identify themselves as Contractor employees and shall not present themselves as EPA employees. Furthermore, they shall not represent the views of the U.S. Government, EPA, or its employees. In addition, the Contractor shall not engage in inherently governmental activities, including but not limited to actual determination of EPA policy and preparation of documents on EPA letterhead.

The Contractor shall not duplicate any previously performed work.

No travel is anticipated under the Work Assignment.

QUALITY ASSURANCE(QA) REQUIREMENTS

The Contractor shall submit a written Quality Assurance Project Plan for any project that is

developing environmental measurements or a Quality Assurance Supplement to the Quality Management Plan for any project which generates environmental data using models with their technical proposal.

Task 1 - Prepare Work Plan and Project Administration

The contractor shall prepare a Work Plan within 15 calendar days of receipt of a work assignment signed by the Contracting Officer (CO). The Work Plan shall outline, describe and include the technical approach, resources, timeline and due dates for deliverables, and a detailed cost estimate by task and a staffing plan.

The WA COR, CL COR and the CO will review the Work Plan. However, only the CO can approve/disapprove, suggest revisions, or change the Work Plan. Official revisions will be given to the contractor by the CO. The contractor shall prepare a revised Work Plan incorporating the CO's comments, if required.

Deliverables and schedule under Task 1

1a. Work Plan within **15** calendar days of receipt of work assignment.

1b. Revised Work Plan within **3** days of receipt of comments from the WA-COR, if required.

Task 2 – Avoided Cost Model: Literature Review [Contract SOW; Section E “Literature and Document Review,” paragraph 1, page 9]

The contractor shall aid in the construction of an avoided cost model for utilization in BenSPLASH. The module shall be focused on drinking water avoided costs and will include, but not be limited to, treatment costs and other avoided costs such as bottled water/home filters.

The Contractor shall coordinate regularly with the WACOR and other key participants while developing the module and shall demonstrate progress on the module through timely presentations or other mechanisms determined by the WACOR.

The contractor shall begin with a review of the available literature, focusing on peer reviewed journal articles published in the United States and existing U.S. EPA economic assessments accompanying regulatory packages, broadening their search in consultation with the WACOR if necessary. In particular, the contractor shall include the applicability of using SafeWater CBX as a basis for building an avoided cost model. The contractor shall submit an initial draft of the literature review for review by the WACOR within 30 days of technical direction from the WACOR. The contractor shall respond to comments and make necessary changes to the draft submitted by the WACOR and provide a final version of the literature review within 15 days of WACOR direction.

Deliverables and schedule under Task 2

2a. Draft Literature Review- within 30 days of technical direction

2b. Final Literature Review- within 15 days of technical direction

Task 3 – Avoided Cost Model: Data Collection [Contract SOW; Section C – 4 “Modeling of Economic, Social and Environmental Systems,” paragraph 1, page 8]

The contractor shall assess and compile available information and data suitable for inclusion in an avoided cost model in consultation with the WACOR. The contractor shall discuss with the WACOR the suitability of the data, its availability, and any other issues that may arise if utilized for the model’s development. The contractor will submit the data, and an accompanying discussion, documentation, and description memo suitable for public dissemination, to the WACOR in a time period dictated through technical direction. This memo will describe the data sources, discussion of the data’s suitability for the modeling task, any transformations or modifications made to the data to allow its use in the model development process, and any issues that may be related to its use. As required by technical direction, the contractor shall respond to comments and make necessary changes to the draft memo and data set submitted by the WACOR and provide a final version of the data set and memo within 15 days of WACOR direction.

Deliverables and schedule under Task 3

3a. Draft data set and memo- schedule determined through technical direction

3b. Final data set and memo- within 15 days of technical direction

Task 4 – Avoided Cost Model: Model Estimation, Programming, and Documentation [Contract SOW; Section C – 4 “Modeling of Economic, Social and Environmental Systems,” paragraph 1, page 8]

The contractor shall develop, empirically estimate, calibrate, and validate the avoided cost model in consultation with the WACOR. This model will be developed in consultation with the lead BenSPLASH development team with a focus on utilization of open-source programming best practices as detailed by the WACOR. The contractor shall develop the module in the R or C# programming languages unless another language is approved via technical direction. The module code shall be documented and organized in such a way as to be appropriate for public dissemination.

The contractor shall work with the WACOR and other parties determined by the WACOR to develop the model code so it operates seamlessly as an element of the BenSPLASH program.

Under this task the contractor shall also detail the approach and methods in an accompanying 10 – 20 page memo suitable for public dissemination. This memo shall include methodological and

programmatic issues, notes, and important considerations useful for users or reviewers.

4a. Draft module code and accompanying memo- schedule determined through technical direction

4b. Final module code and accompanying memo- within 15 days of technical direction

Task 5 – Miscellaneous Memoranda [Contract SOW; Section C – 4 “Modeling of Economic, Social and Environmental Systems,” paragraph 1, page 8]

The contractor shall, in coordination with the WACOR and other parties determined by the WACOR, draft a 5 – 10 page memo outlining the development steps pursued focusing on the module construction and integrating into BenSPLASH. The memo will outline any issues, important considerations, and general information required when developing a BenSPLASH module for public review and use. This memo will be written in a manner suitable for public dissemination and is intended to provide prospective developers with important information to consider when developing additional modules themselves.

The contractor shall submit memo to the WACOR within 30 days of technical direction. If necessary, the contractor shall respond to comments and make necessary changes to the draft memo and data set submitted by the WACOR and provide a final version of the data set within 15 days of WACOR technical direction.

In addition, the contractor shall deliver an additional 1-2 memoranda related to development of additional BenSPLASH modules

5a. Draft development memo within 30 days of technical direction

5b. Final development memo within 15 days of technical direction

Summary of Deliverables and Dates:

1a. Workplan within 15 calendar days of receipt of work assignment.

1b. Revised workplan within 3 calendar days of receipt of comments from the Contracting Officer, if required.

2a. Draft Literature Review within 30 days of technical direction

2b. Final Literature Review within 15 days of technical direction

3a. Draft data set and memo schedule determined through technical direction

3b. Final data set and memo within 15 days of technical direction

4a. Draft module code and accompanying memo schedule determined through technical direction

4b. Final module code and accompanying memo within 15 days of technical direction

5a. Draft development memo within 30 days of technical direction

5b. Final development memo within 15 days of technical direction

<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> <h1 style="margin: 0;">EPA</h1> </div> <div style="text-align: center;"> <p>United States Environmental Protection Agency Washington, DC 20460</p> <h2 style="margin: 0;">Work Assignment</h2> </div> </div>		Work Assignment Number 3-38								
		<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:								
Contract Number EP-W-17-009	Contract Period 02/11/2017 To 09/10/2020 Base Option Period Number 3	Title of Work Assignment/SF Site Name Estimating the Value of LBW								
Contractor Abt Associates Inc.		Specify Section and paragraph of Contract SOW Sec II, para(s) F and H, pg(s) 10, para J, pg 10								
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval		Period of Performance From 09/25/2019 To 09/10/2020								
Comments: The purpose of this action is to initiate Work Assignment 3-38 under ABT Contract EP-W-17-009. The Contractor shall submit an estimated work plan and an estimated budget in accordance with the Contract. See the attached Statement of Work.										
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
SFO <input type="checkbox"/> Note: To report additional accounting and appropriations date use EPA Form 1900-69A. (Max 2)										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period: 02/11/2017 To 09/10/2020		Cost/Fee:				LOE:				
This Action:										
Total:										
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:				Cost/Fee			LOE:			
Cumulative Approved:				Cost/Fee			LOE:			
Work Assignment Manager Name Nathalie Simon <div style="display: flex; justify-content: space-between;"> <div>_____</div> <div>_____</div> </div> <div style="display: flex; justify-content: space-between;"> <div>(Signature)</div> <div>(Date)</div> </div>							Branch/Mail Code:			
							Phone Number: 202-566-2347			
Project Officer Name Cheryl R. Brown <div style="display: flex; justify-content: space-between;"> <div>_____</div> <div>_____</div> </div> <div style="display: flex; justify-content: space-between;"> <div>(Signature)</div> <div>(Date)</div> </div>							FAX Number:			
							Branch/Mail Code:			
Other Agency Official Name <div style="display: flex; justify-content: space-between;"> <div>_____</div> <div>_____</div> </div> <div style="display: flex; justify-content: space-between;"> <div>(Signature)</div> <div>(Date)</div> </div>							Phone Number: 202-566-0940			
							FAX Number:			
Contracting Official Name Genine McElroy <div style="display: flex; justify-content: space-between;"> <div>_____</div> <div>_____</div> </div> <div style="display: flex; justify-content: space-between;"> <div>(Signature)</div> <div>(Date)</div> </div>							Branch/Mail Code:			
							Phone Number: 202-564-4746			
							FAX Number:			
							Branch/Mail Code:			
							Phone Number:			
							FAX Number:			

WORK ASSIGNMENT Statement of Work

Title:	Estimating the Value of Reduced Risk of Low Birth Weight (LBW)
Contractor:	Abt Associates
Contract No.:	EP-W-17-009
Work Assignment Number:	3-38
Estimated Period of Performance:	Date of issuance – May 31, 2020
Estimated Level of Effort:	124 hours
Work Assignment COR (WA COR):	Nathalie Simon OP/ NCEE (MC 1809T) 202-566-2347 Simon.nathalie@epa.gov
Contract Level COR (CL COR):	Cheryl R. Brown Office of Policy, Immediate Office (1805T) Phone: 202-566-0940 Email: brown.cherylr@epa.gov

I. Background

The US Environmental Protection Agency (EPA) is required by statute and/or executive order to perform benefit-cost analysis of rulemakings. For impacts on human health, a key challenge is to estimate the expected health benefits in dollar terms, largely because willingness to pay (WTP) or cost-of-illness estimates are not always available for the health effects associated with different rules. The literature contains many valuation estimates associated with occupational fatalities; however, there are far fewer estimates available for potentially important health endpoints affected by environmental policy. These endpoints include risk of fatal and non-fatal cancer of many types; cardiovascular outcomes, such as stroke and hypertension; and cognitive effects (e.g., Alzheimer's). To provide a more comprehensive assessment of the benefits associated with rules that reduce health risks, analysts need WTP estimates for different health endpoints affected by rules. For many health endpoints, stated preference (SP) methods are a valuable method to elicit the WTP estimates needed for more complete benefits analysis.

EPA is in the process of developing a stated preference survey instrument to elicit willingness to pay estimates for selected health benefits associated with a wide array of environmental contaminants including lead, arsenic, mercury, and many other chemicals. EPA's National Center for Environmental Economics (NCEE) met with economists and policy analysts from the Offices of Air and Radiation (OAR), Office of Water (OW), Chemical Safety and Pollution

Prevention (OCSPP), and Land and Emergency Management (OLEM) to gather information on specific health endpoints and contaminants for which EPA routinely lacks values and/or are likely to be the subject of future rulemaking efforts. The results of these discussions indicate that birth and neurodevelopmental outcomes: (1) often lack WTP estimates for valuation, (2) are associated with many contaminants of concern across program offices, and (3) are likely to be encountered in one or more future rulemakings.

Informed by focus groups conducted under Contract EP-C13-039 (WA 4-37) with OMB approval [OMB Control number 2090-0028, expiration 3/31/22], NCEE has focused the survey project on the elicitation of individuals' willingness to pay (WTP) for reduced risks of low birth weight.

Purpose and Objectives:

The purpose of this work assignment (WA) is to obtain contractor support for key activities related to the development and testing of the stated preference survey. Specifically, contractor support is needed for establishing a technical review panel of experts, arranging for protocol interviews, identifying appropriate non-response bias tests, and drafting selected portions of the information collection request (ICR) package. The contractor support shall aid staff in NCEE in the development and ultimately, with approval from OMB, the administration of a high-quality stated preference survey. Results of this stated preference survey are expected to fill gaps in EPA's ability to monetize noncancer health benefits in policy analyses.

This work assignment builds on and revises work conducted under Contract EP-C13-039 (WA 4-37) and WA 2-27 under contract EP-W-17-009. The contractor shall avoid duplication of effort to the extent possible.

Tasks and Deliverables:

The WA COR will review all deliverables in draft form and provide revisions or comments to the contractor. The contractor shall prepare the final deliverables incorporating the WA COR's comments. Final deliverables shall be in Microsoft Word or other appropriate electronic format requested.

Contractor personnel shall, at all times, identify themselves as Contractor employees and shall not present themselves as EPA employees. Furthermore, they shall not represent the views of the U.S. Government, EPA, or its employees. In addition, the Contractor shall not engage in inherently governmental activities, including but not limited to actual determination of EPA policy and preparation of documents on EPA letterhead.

The Contractor shall not duplicate any previously performed work.

QUALITY ASSURANCE(QA) REQUIREMENTS

The Contractor shall submit a written Quality Assurance Project Plan with their technical proposal for any project that collects, generates and/or disseminates environmental data.

Task 1 - Prepare Work Plan and Project Administration

The contractor shall prepare a Work Plan within 15 calendar days of receipt of a work assignment signed by the Contracting Officer (CO). The Work Plan shall outline, describe and include the technical approach, resources, timeline and due dates for deliverables, and a detailed cost estimate by task and a staffing plan.

The WA COR, CL COR and the CO will review the Work Plan. However, only the CO can approve/disapprove, suggest revisions, or change the Work Plan. Official revisions will be given to the contractor by the CO. The contractor shall prepare a revised Work Plan incorporating the CO's comments, if required.

Deliverables and schedule under Task 1

1a. Work Plan within **15** calendar days of receipt of work assignment.

1b. Revised Work Plan within **3** days of receipt of comments from the WA-COR, if required.

Task 2 – Establish and coordinate activities of expert panel [Reference to Contract SOW; Section II, para(s) F and H, page(s) 10]

The contractor shall coordinate activities of one three-person team of experts to provide input on the survey development process in the form of comments on draft materials, suggestions and other advice related. The expert panel shall consist of three members from the academic or scientific community with backgrounds in environmental economics, stated preference valuation, and survey methodology. At least two of the experts shall have expertise in valuing reductions in health risks. The WACOR will provide additional criteria through technical direction to assist the contractor in selecting experts. Activities of the expert panel shall include reviewing advice provided in previous reviews, providing advice on the development of the survey instrument based on outcomes of protocol interviews, providing recommendations on the study designs for the study in question, and proposing alternatives and improvements to the data analysis plans for the study. The expert panel members shall provide their individual comments and suggestions on all materials in writing. The expert input provided under this task would not serve to meet the requirements set forth in the Peer Review Guidelines for peer review of these ISI products. The required peer review would be undertaken by other means, and not via this same contract and Work Assignment.

The contractor shall arrange for one meeting of the expert panel to occur remotely, with EPA providing the webinar access if needed. The meeting shall last no more than two hours. The WACOR will provide all electronic versions of documents to be discussed to the contractor for distribution in advance of the meetings. The contractor shall provide the WACOR with electronic versions of the panelists' completed reviews. No summary document or meeting notes are required from the contractor.

Deliverables and Schedule under Task 2

2a) Discussion between contractor and WACOR regarding general composition of the expert panel to take place within one week of receipt of the WA.

2b) Confirmation from contractor of expert panel participation within one week of discussion noted in 2a.

2c) Dates for meeting to be identified within 1 week of receiving technical direction from WACOR and relevant materials distributed to expert panel members. Meeting to be scheduled at a time and date agreed upon by WACOR and contractor, taking into account team and panel member availability.

2d) Expert panel member reviews to be provided within two weeks of meeting.

Task 3 – Design Layout and Graphics for Mixed-Mode Survey [Reference to Contract SOW; Section II, para(s) J, page 10]

EPA anticipates the health survey will be administered in an electronic form using a split sample design for recruitment. Specifically, EPA plans to administer the survey via the internet to a sample drawn from a probability-based internet panel (PBIP) as well as a sample of respondents recruited directly via mail. Once the EPA has completed the design of a draft instrument, the WACOR will transmit the file to the contractor for computerization. The survey instrument administered to respondents recruited by mail should be identical to and operate in the exact same manner as versions accessed by the PBIP. Ideally, respondents will access the same electronic versions of the survey, hosted on the same platform, regardless of how they are recruited. To that end, the contractor shall avoid duplication of effort in the computerization of the electronic survey versions for administration to the PBIP and the mail-recruited sample.

Note that EPA is expecting to administer multiple versions of the survey to each sample. The contractor shall provide EPA (via the WACOR) access to each survey version using a web link. The EPA will test and review the operation of the electronic survey instruments and provide written comments to the contractor. Subsequently, the contractor shall revise the electronic surveys according to the comments received from the WACOR.

The revised survey instruments will be further tested in cognitive interview (see task 4) prior to the completion and submission of the Information Collection Request (ICR) to the Office of Management and Budget (OMB) for approval. Additional comments and requests for revision will be provided by the WACOR to the contractor following each stage of survey development.

Deliverables and Schedule under Task 3

3a. Provide weblinks to electronic surveys for survey review and testing within 2 weeks of receiving technical direction from the WACOR.

3b. Revise electronic versions of the survey instruments within 1 week of receiving comments from the WACOR and provide links to revised survey instruments for use in cognitive interviews.

3c. Following cognitive interviews, revise electronic versions of the survey instruments and provide links to revised survey instruments for use in the survey pretest within 1 week of receiving comments from the WACOR.

Task 4 - Facilitate and Arrange for 60 One-on-One Interviews for Health Survey Development [Reference to Contract SOW; Section II, para(s) H and J, page 10]

The contractor shall arrange for a series of up to 40 one-on-one interviews with potential respondents (in four sessions). After the review of the survey instrument by the expert panel, the contractor shall arrange for up to 20 additional one-on-one interviews with potential respondents (in 2 sessions). Each interview shall last approximately 50-60 minutes. Computers with necessary software shall be available for the interviewees to facilitate testing of the electronic survey instrument. EPA will conduct these interviews to test different versions of the survey instrument and will provide all materials for the participants.

The contractor shall recruit participants according to criteria provided by the WACOR. The contractor shall provide an appropriate facility and location for these interviews. The contractor shall arrange for these interviews to be audio- or video-recorded in digital format and delivered to EPA by digital download. The one-on-one interviews are expected to be held in the Washington, DC metro area, but may include others such as Baltimore, MD and Richmond, VA. The WACOR will provide technical direction as to the expected schedule and final locations.

The contractor shall immediately alert the WACOR to any anticipated event under the work assignment which may result in incurring an estimated \$20,000 or more cost, funded by EPA, specific to that event, meeting, training, etc. Those costs would include travel of both prime and consultant personnel, planning and facilitation costs, AV and rental of venue costs, etc. The EPA WACOR will then prepare approval internal paperwork for the event and will advise the CO when appropriate signatures have been obtained. At that point, the CO will notify the contract when effort can proceed for the event. If the event is being sponsored by another EPA organization, the organization providing the planning is responsible for the approval.

The WACOR, in conjunction with the appropriate personnel in NCEE, has secured ICR approval for the one-on-one interviews under an existing agreement with OMB (OMB Control No:2090-0028, expiration 3/31/22) and will work with the contractor to ensure compliance with other relevant OMB guidance.

Deliverables and schedule under Task 4

4a. Establish location and dates for a total of 40 one-on-one interviews (10 in each of four sessions) within 1 week of receiving technical direction from WACOR.

- 4b.** Recruit participants for the first set of interviews within 1 week of establishing location and dates for interviews, and recruit participants for the subsequent interviews according to the schedule determined in task 4a.
- 4c.** Establish location and dates for 20 additional one-on-one interviews (in 2 sessions) within 1 week of receiving technical direction from WACOR.
- 4d.** Arrange audio- and video- recordings of each interview
- 4e.** Submit audio- and/or video-recordings to WACOR within one week of completing each set of interviews.

Task 5 – Prepare ICR Package [Reference to Contract SOW; Section II, para(s) J, page 10]

The contractor shall assist with the preparation of the draft ICR package to be submitted to OMB for approval to conduct the survey. Primarily, this task will involve providing/reviewing brief descriptions of the sample selection process, collection methods, and follow up for EPA to incorporate into the supporting statement. A description of the sampling strategy and precision requirements will be provided under a separate task (see task 5). The WACOR will provide technical assistance on other relevant sections of the package, including providing relevant guidance documents. The contractor shall assist with revisions to the ICR based on comments from the WACOR up to 3 times.

Deliverables and Schedule under Task 5:

- 5a.** Prepare drafts of selected sections of the ICR package within 2 weeks of receiving technical direction from WACOR.
- 5b.** Revise ICR package up to 3 times within 1 week of receiving comments from WACOR.

II. Summary of Deliverables and Dates

Task	Deliverable	Form and Quantity	Schedule
Task 1	1a) Work plan	Electronic Document	Within 15 calendar days of work assignment receipt
	1b) Kick-off meeting	Meeting/teleconference	Within 7 calendar days of work plan approval.
Task 2	2a) Draft list of potential expert panel participants	Electronic Document	Within 1 week of technical direction providing desired credentials
	2b) Confirmation of expert panel participants	Electronic Document	Within 2 weeks of comments from WACOR on 2a
Task 3	3a) Submit electronic files of each version of survey instruments to be used in cognitive interviews	Electronic documents	Within 2 weeks of receiving technical direction from WACOR
	3b) Revise electronic versions of cognitive interview surveys	Electronic Document	Within 1 week of receiving comments from WACOR
Task 4	4a) Establish locations and dates for 40 one-on-one interviews.	Email	Within 1 week of receiving technical direction from WACOR
	4b) Recruit participants for the first 40 one-on-one interviews	Electronic Document	First interview: within 1 week of completing task 4a
	4c) Establish location and dates for up to 20 more one-on-one interviews	Electronic Document	First interview: within 1 week of receiving technical direction from WACOR
	4d) Arrange audio /video recordings of each interview	NA	To coincide with 4a
	4e) Submit audio /video recordings of interviews	DVD, electronic document	Within 1 week of completing each set of interviews
Task 5	5a) Submit drafts of selected sections of ICR package	Electronic Document	Within 2 weeks of receiving technical direction from WACOR
	5b) Revised ICR sections	Electronic Document	Within 1 week of receiving comments from WACOR (to be repeated up to 2 additional times)

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment		Work Assignment Number 3-40								
		<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:								
Contract Number EP-W-17-009	Contract Period 02/11/2017 To 09/10/2020 Base Option Period Number 3	Title of Work Assignment/SF Site Name Support for developing BensPLA								
Contractor Abt Associates Inc.		Specify Section and paragraph of Contract SOW Section II, para G, page 10, para J, page(s) 10-11								
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval		Period of Performance From 01/29/2020 To 09/10/2020								
Comments: The purpose of this action is to initiate Work Assignment 3-40 under ABT Contract EP-W-17-009. The Contractor shall submit an estimated work plan and an estimated budget in accordance with the Contract. See the attached Statement of Work.										
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
SFO <input type="checkbox"/> Note: To report additional accounting and appropriations date use EPA Form 1900-69A. (Max 2)										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee:		LOE:						
02/11/2017 To 09/10/2020										
This Action:										
Total:										
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:		Cost/Fee		LOE:						
Cumulative Approved:		Cost/Fee		LOE:						
Work Assignment Manager Name Matt Heberling							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number: 513-569-7917			
							FAX Number:			
Project Officer Name Cheryl R. Brown							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number: 202-566-0940			
							FAX Number:			
Other Agency Official Name							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number:			
							FAX Number:			
Contracting Official Name Genine McElroy							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number: 202-564-4746			
							FAX Number:			

WORK ASSIGNMENT

Statement of Work

Title: Support for developing BenSPLASH modules

Contractor: Abt Associates

Contract No.: EP-W-17-009

Work Assignment Number:

3-40

Estimated Period of Performance:

Date: Issuance - September 10, 2020

Estimated Level of Effort:

443 hours

Work Assignment COR (WA COR):

Matt Heberling

ORD/NRMRL/WSD/WMB

Phone: 513.569.7917

Email: heberling.matt@epa.gov

Contract Level COR (CL COR):

Cheryl R. Brown

Office of Policy, Immediate Office (1805T)

Phone: 202-566-0940

Email: brown.cherylr@epa.gov

Background:

Under Executive Orders 12866 and 13563, EPA is required to estimate the potential benefits and costs to society for all significant regulatory actions. EPA is working toward improving its ability to monetize the benefits associated with regulatory actions related to the Clean Water Act (CWA).

Purpose and Objectives:

The purpose of this Work Assignment (WA) is to support an Office of Research and Development (ORD), Office of Water (OW), and Office of Policy (OP) effort of developing the Benefits Spatial Platform for Aggregating Socioeconomics and H₂O Quality (BenSPLASH). BenSPLASH is a modeling platform designed to estimate the economic benefits of water quality improvements. This WA includes the collection of human-mobility datasets, focus groups, and the collection of hedonic property and water quality data.

In carrying out the tasks specified in this work assignment, the contractor may be called upon to build on and continue work performed under OW's Contract EP-C-13-039 and OP's Contract EP-W-17-009, which supported the development of BenSPLASH. The work performed under this work assignment will not duplicate work conducted under Contract EP-C-13-039 or Contract EP-W-17-009.

Under WA 2-17 and 2-28 of Contract EP-W-17-009, the contractor collected human-mobility datasets to examine their potential for estimating recreational demand models in the northeast US. Additional datasets are necessary for developing approaches across the country.

Under OW's Contract EP-C-13-039, the contractor collected water quality data and property sales data. Additional datasets are necessary for analyzing new markets across the country.

Tasks and Deliverables:

The WACOR will review all deliverables in draft form and provide revisions or comments to the contractor. The contractor shall prepare the final deliverables incorporating the WA COR's comments. Final deliverables shall be in Microsoft Word or other appropriate electronic format requested.

Contractor personnel shall at all times identify themselves as contractor employees and shall not present themselves as EPA employees. Furthermore, they shall not represent the views of the U.S. Government, EPA, or its employees. In addition, the contractor shall not engage in inherently governmental activities, including but not limited to actual determination of EPA policy and preparation of documents on EPA letterhead.

The Contractor shall be in compliance with the Paperwork Reduction Act and Information Collection Request requirements, including obtaining OMB approval when collecting information from the public.

The contractor shall not duplicate any previously performed work.

QUALITY ASSURANCE (QA) REQUIREMENTS

The contractor shall submit with their technical proposal a written Quality Assurance Project Plan since this work assignment involves the collection of environmental and economic data and generates environmental data using Geographic Information Systems (GIS).

The contractor shall follow the relevant sections of their standard Quality Management Plan as well as the relevant sections of EPA's approved QAPP (see attachment, J-ACESD-0031149-QP-1-4), to be provided to the contractor. EPA's QAPP describes procedures for assuring the quality of the secondary data used for this WA.

The contractor shall ensure the work plan provides enough detail to clearly describe:

- Specific objectives of the project(s) supported by this work assignment,
- The type of data to be gathered or used under this work assignment to support the project objectives—including data from search engines, federal databases, EPA data bases, letters

from industry—as a well as a rationale for when those sources are appropriate and what data available in each will support the project.

- The quality objectives needed to ensure the data will support the project objectives, and
- The quality assurance/quality control (QA/QC) activities to be performed to ensure that any results obtained are documented and are of the type, quality, transparency, and reproducibility needed.

Task 1 - Prepare Work Plan and Project Administration

The contractor shall prepare a Work Plan within 15 calendar days of receipt of a work assignment signed by the Contracting Officer (CO). The Work Plan shall outline, describe and include the technical approach, resources, timeline and due dates for deliverables, and a detailed cost estimate by task and a staffing plan.

The WACOR, CL COR and the CO will review the Work Plan. However, only the CO can approve/disapprove, suggest revisions, or change the Work Plan. Official revisions will be given to the contractor by the CO. The contractor shall prepare a revised Work Plan incorporating the CO's comments, if required.

Deliverables and schedule under Task 1

- 1a. Work Plan within 15 calendar days of receipt of work assignment.**
- 1b. Revised Work Plan within 3 days of receipt of comments from the WA COR, if required.**

Task 2 – Source Review and Acquisition of Human-Mobility Datasets [Reference to Contract SOW; Section II, para G, page 10]

For this task, similar to WA 2-28, the contractor shall purchase human-mobility datasets for recreation area points of interest (POI) in the United States. Using their existing ranking of the different sources for human-mobility datasets from WA 2-28, the contractor shall purchase up to 3500 units (where a unit equals data for 1 month for 1 POI) of data. The datasets shall include at least the following information for the specified time windows and POIs:

- Total daily visitation by POI
- Total hourly visitation by POI
- Monthly count of visitors for each POI by visitor origin (anonymized, census block-group resolution)
- Monthly counts of visitors for each POI by frequency and duration of stay

The datasets will have documentation on the details of the sample and processing methods as appropriate and consistent with the data provider's public documentation policies and intellectual property as well as data privacy documentation. Additional details of the parameters of the data needed, and the GIS information for the specific geographic locations of the POIs will be provided by the EPA before the contractor begins the task. The EPA will provide the specific geographies and time-windows within 4 weeks of the delivery of the revised work plan. The specific geographies and time-windows will not change the cost of the datasets.

After consultation with EPA, the contractor shall arrange for the purchase of the appropriate datasets containing the POIs and variables through the time window to fit the needs of EPA. The contractor shall provide all original data files, QA documentation and metadata from the dataset provider to the EPA.

Deliverables and schedule under Task 2

- 2a. The contractor shall deliver the datasets within 8 weeks of when a revised workplan is delivered (4 weeks after EPA delivers geographies and time-windows).**

Task 3 – Arrange for Focus Groups [Reference to Contract SOW; Section II, para J, page(s) 10-11]

The contractor shall arrange for the conduct of up to 5 focus groups to understand the barriers and acceptance of using advanced denitrifying septic systems for improving coastal water quality. The focus groups will be conducted in and near Charlestown, RI, Westport, MA and Barnstable County, MA. The WACOR will provide technical direction as to the expected schedule and locations, and for final locations.

The contractor shall recruit focus group participants based on criteria developed by EPA and provided by the WACOR. The contractor shall arrange for each focus group to be conducted in an appropriate facility, such as a hotel conference room or other public space. Each focus group shall be audio-recorded in digital format and delivered to EPA on DVD or as a digital download. The contractor shall provide transcriptions for the focus groups.

The contractor shall recruit 5-10 individuals for each focus group. The individuals will be recruited from a list, provided by EPA, of homeowners having been engaged in advanced denitrifying septic system pilot projects. The contractor shall arrange for and distribute appropriate incentive payments for attendees. Each focus group shall last approximately 2 hours and be conducted at a convenient time and in a convenient location. The EPA will provide the moderator services for the focus groups.

The WACOR in conjunction with the appropriate personnel in ORD will secure the Information Collection Request (ICR) approval for the focus groups under an existing agreement with the

Office of Management and Budget (OMB) for expedited review.

Deliverables and schedule under Task 3

- 3a. Establish locations and initial dates for focus groups within 8 weeks of when a revised workplan is delivered.**
- 3b. Recruit participants for first focus group within 1 week of receiving final location information and criteria from EPA and for subsequent focus groups within 1 week of receiving criteria for those groups.**
- 3c. Arrange audio-recordings of each group within 1 week of receiving final location information from EPA and for subsequent focus groups within 1 week of receiving criteria for those groups.**
- 3d. Submit audio-recordings and transcripts to WACOR within 3 weeks of completing each set of focus groups.**

Task 4– Source Review of Water Quality Data and Housing Transaction Data [Reference to Contract SOW; Section II, para G, page 10]

This task is similar to work under Contract EP-C-13-039 (Tasks 4 and 6 of WA 1-20, WA 2-20, and WA 3-35) where the contractor shall identify the availability and sources of water quality data and housing transaction data from housing markets for hedonic property value analyses. The number of housing markets shall be dependent on the availability of water quality data found in Subtask 4.1 but shall not exceed 5 potential areas for this task. Housing markets may contain multiple counties and multiple waterbodies (although Guignet et al. 2019 found recent studies that focus on one large waterbody, like estuaries). The contractor shall consider Figure 1 in identifying potential states where existing hedonic studies are not available. These study locations will be counties or metropolitan statistical areas in housing markets near water features with water quality data identified in Subtask 4.1. The contractor shall follow the process for gathering and summarizing data detailed below.

Subtask 4.1 Source Review of Water Quality Data [Reference to Contract SOW; Section II, para(s) G, page 10]

Under Contract EP-C-13-039, the contractor assessed, obtained, cleaned, and provided monitoring data for multiple counties in Florida, Ohio, Washington, and New York to EPA. Similarly, the contractor shall identify up to 5 data searches for new waterbodies/water features using Figure 1 as a guide. The contractor shall focus on states that have no hedonic studies.

For each waterbody, the contractor shall assess available sources of water quality monitoring data and surface water model estimates for constituent parameters of interest including, but not limited to, total suspended solids (TSS), biological oxygen demand (BOD) chlorophyll a, clarity (i.e., secchi depth), dissolved oxygen, pathogens, nitrogen, phosphorus, and biotoxins. Measurements of clarity will be a priority for the EPA. The contractor also shall search for state or jurisdiction level information on impairment events, such as algal blooms, fish kills, beach

closures, shellfish bed closures, fishing advisories, and swimming advisories. In addition, the contractor shall search for water quality indices designed and used by state or local jurisdictions to provide an aggregate measure of surface water quality on an annual or more frequent basis.

The contractor shall identify and review water quality information available from public sources, including Federal, state, and local organizations (e.g., watershed organizations, academic institutions). As needed, the contractor shall obtain the data in order to conduct this review. The contractor shall characterize and assess the data available for each waterbody in a summary memo or other written format. The report shall describe data sources, water body type(s), geographic extent, number and location of monitoring stations, parameters monitored, monitoring frequency (e.g., daily, monthly, seasonally), and monitoring period (start/end). The contractor shall provide a description of key features for any water quality indices identified. The contractor shall provide maps showing the location of monitoring stations relative to land features and county boundaries.

The contractor shall provide the written assessment to EPA. After considering the assessment and any consultation with the contractor, EPA will provide comment on any research needed to complete assessment of the data. Research topics could include, but are not limited to, obtaining additional information on data quality, evaluating methodologies for addressing data gaps, and assessing possibilities for aggregation of data from multiple monitoring stations. The contractor shall conduct the specified research, incorporate it in a revised assessment report, and submit the revised report to EPA.

Deliverables and schedule under Subtask 4.1

4.1a. Written assessment of availability and suitability of surface water quality data – within 10 weeks of when a revised workplan is delivered.

4.1b. Revised written assessment of the availability and suitability of water quality data – within 14 calendar days of receipt of comments from WACOR, if required.

Subtask 4.2- Source Review of Housing Transaction Data [Reference to Contract SOW; Section II, para G, page 10]

Following the potential water quality data sources, the contractor shall research the availability, sources, and costs of home transaction data from housing markets that are being considered for hedonic property value analyses. The number of reviewed locations will depend on the availability of water quality data found in Subtask 4.1, but the target for the contractor shall be to identify at least five candidate housing markets where the necessary home transaction and associated water quality data are available for hedonic analysis. The EPA will choose two of the 5 for Task 5. The contractor shall complete the source review for counties or metropolitan statistical areas within one mile of each waterbody identified in Subtask 4.1. If there are more than 12 counties or metropolitan statistical areas within one mile, the contractor shall consult

EPA about the source review.

The contractor's source review activities for each transaction dataset shall include contacting potential sources of home transaction data (such as the County Assessor's Office or Website), and preparing a written assessment to summarize key features (e.g., an Excel table or brief outline). The written assessment will describe the following for each location:

- Availability and basic features of property transaction data, defined as records of market sale price data for residential property transactions (not assessed values) and information on the characteristics of the property, land, and home itself. The contractor shall note the following specifics:
 - Whether the data includes the date of each transaction
 - A summary of other relevant data available in addition to prices, such as the characteristics of the property, land, and/or features of the home itself
 - Geographic area covered by dataset
 - Time period covered by the dataset
- How the property transaction and characteristics dataset is structured, for example:
 - Does it include all sales within the time period or only the most recent sale(s)?
 - Does it include house prices for prior sales that occurred before the dataset time period?
 - Does each observation in the sales dataset correspond to a single transaction?
 - Can repeat sales be identified via a unique parcel id?
 - Can the property transactions data be linked with characteristics and GIS parcel layers, if available?
- Whether or not the sales data contain sales records from a period of identified high volatility (e.g., recession), as defined by EPA WACOR;
- Whether or not characteristics data on all residential parcels (not just those sold) are available; and
- A list of available Geographical Information System (GIS) data layers

The contractor shall also record:

- The name of data source(s) and contact information
- Cost of data, including any pricing options that are offered (e.g., Federal government discounts)
- Whether purchase of data is for a one-time delivery or for a license to access data over a period of time
- Whether the data are geo-referenced (i.e., are the geographic coordinates included)
- Whether records for a unique parcel available as a panel over time, or whether values are reported only for certain year(s)

The contractor shall provide the written assessment to EPA. After considering the assessment and consultation with the contractor, EPA will provide comment on any research needed to complete assessment of the data. Research topics could include, but are not limited to, obtaining additional information on data quality, and evaluating methodologies for addressing data gaps. The contractor shall conduct the specified research, incorporate it in a revised assessment, and submit to EPA.

Deliverables and schedule under Subtask 4.2

4.2a. Written assessment of availability and suitability of housing market data – within 15 weeks when a revised workplan is delivered.

4.2b. Revised written assessment of the availability and suitability of housing market data – within 14 calendar days of receipt of comments from WACOR, if required.

Task 5 Acquisition, Preparation, and Summarization of Water Quality Data and Housing Transaction Data [Reference to Contract SOW; Section II, para G, page 10]

After reviewing the data assessments from Task 4, EPA will provide technical direction to the contractor on what water quality data and housing transaction data are suitable for further use (at most 2 of the 5 waterbodies/housing markets from Task 4).

The contractor shall obtain the water quality data (if not already obtained during review process in Task 4), clean, and prepare it for use by EPA. Cleaning and preparation requirements shall include, but are not limited to, specific data formatting requirements, preliminary screening of data points, and preliminary aggregation of data points. The contractor shall provide a data field dictionary for each database they prepare. The contractor shall submit the water quality data, data field dictionary, and a summary memo or other written description describing the methods used for data cleaning and preparation to EPA.

The contractor shall obtain, clean, and format two housing market datasets into a standardized form suitable for estimating hedonic property value regressions. The task of processing raw sales and characteristics data necessarily involves addressing data quality problems frequent in county assessors' databases (e.g., matching unique IDs across datasets, lack of geographically referenced data, data structure, and poor documentation). The contractor shall provide all original data files to EPA.

(a) An enhanced GIS database

The contractor shall provide a Geographical Information Systems (GIS) database table for each study location. This GIS database will contain all geographically referenced parcels, as well as GIS layers of all original and revised GIS files obtained or used (e.g., major highways, census tracts) for each study location (e.g., county). If housing transactions are not geo-referenced (i.e., the geographic coordinates are not available), then the contractor shall consider evaluating "geocoding" the sales or parcels based on the home address, in order to obtain the coordinates and create the corresponding GIS layer. EPA and the contractor shall consult about next steps if geocoding is required.

The GIS database could include, but is not necessarily limited to, the following GIS layers (most recent with reasonable spatial coverage):

1. All residential parcels (if parcel data does not exist then include shapefile of all residential transactions)
2. Primary roads (as defined by ESRI's North American Streetmap)
3. Secondary roads (as defined by ESRI's North American Streetmap)
4. County boundaries
5. Census tracts (as defined by 1990, 2000, and 2010 Censuses)
6. Census block groups (as defined by 1990, 2000, and 2010 Censuses)
7. Public water service areas (if readily available from County, or directed by EPA WACOR)
8. Major US Cities (as defined by cities with populations greater than 250,000 according to ESRI's USA Major Cities shapefile)
9. Centroids of urbanized areas and urban clusters (as defined by 2010 Census's "Urban Areas" gazetteer file)
10. Protected areas /open space polygons (from USGS GAP Analysis, <http://gapanalysis.usgs.gov/>)
11. Floodplain polygons (from USGS, if applicable)
12. Raster files of recent National Land Cover Datasets
13. Water feature layer(s) (e.g., "high-profile" waterbodies with multiple recreational and nonrecreational uses or the network of small streams located nearby).

(b) Property sales and parcel data files

For each study area, the contractor shall format the selected residential sales data, so it is in a consistent form suitable for estimating hedonic regressions. Depending on the underlying data, there will be 1 to 2 datasets to deliver. The optimal configuration will yield two datasets:

- (1) A parcel dataset that contains only parcels and their associated characteristics. Each observation in that dataset corresponds to a unique parcel.
- (2) A property sales dataset, where each observation corresponds to a unique property sale transaction. Each property sale observation should contain all the relevant characteristics from the parcel database. In some cases, the parcel data may not be available, leaving (2) as the only deliverable.

Following previous efforts, the contractor shall prepare the property sales and parcel data files as follows:

1. Conduct any data merging needed to develop the parcel dataset and property sales dataset.
2. Define and name variables (e.g., sale price, structural features like living area and lot size) consistently across all home transaction datasets. This includes formatting all unique parcel identifiers as a string variable, e.g., preserving any leading zeros.
3. Clean the property sales data by deleting observations with missing sale prices, missing coordinates, or that are not arms-length transactions.
4. Remove duplicate sales records, which have the same parcel ID, sale year, and sale month. The parcel dataset should not have any duplicate parcel IDs.
5. Derive additional locational characteristics for each parcel (see list below). Homes should be matched to a set of Census Tract characteristics specified by the WACOR.
6. Eliminate extraneous variables.
7. Deliver data in comma delimited (.csv) or Stata (.dta) format.

The contractor shall provide a core set of hedonic regression variables for each site, to be agreed upon between Abt and the EPA before draft datasets are delivered. The variables could include, but are not necessarily limited to, the following, which are likely to be found in transactions and/or characteristics data files:

- Unique parcel id
- Geographic coordinates (and coordinate system)
- Address
- County
- Date of transaction, Year of transaction, Month of transaction
- Transaction price
- Type of transaction (e.g., arms-length)
- Type of home (e.g., townhouse, single-family)
- Year home built
- Size of lot
- Interior square footage
- Number of bedrooms
- Number of bathrooms
- If public water, is it ground or surface water?
- Additional home characteristics (type of heating/AC, existence of pool, garage, etc.).
- Land Use classification of the property
- GIS-derived locational variables (see below)

The contractor shall also use GIS to derive a standard set of variables regarding locational characteristics of a home, including, but not necessarily limited to:

- Census tract and block group FIPs codes and characteristics
- Euclidean distance ('as-the-crow-flies') to nearest feature in nationally-available data layers:
- Primary road
- Secondary road
- Central business district and/or Metropolitan area (and name of this location)
- Open space or protected areas (e.g., municipal, state, or federal parks)
- Surrounding land uses
- Whether a home is located in a FEMA-designated floodplain
- Whether a home is located in an area projected to be impacted by sea-level rise or increased flooding.
- Distance to water features
- Nearby water quality identified in **Subtask 4.1**.

Key environmental and locational characteristics for this study are distance to water features, and water quality at nearby water quality monitoring stations. The contractor shall also match the property sales data with the water quality data obtained and have budgeted for reasonable data cleaning to the water quality data prior to matching it to the parcel data. Depending on the water

quality data, the contractor shall determine the appropriate temporal matching (i.e., closest annual or monthly averages) as well as the spatial matching (e.g., nearest monitoring station on the nearest waterbody).

(c) Documentation

The contractor shall provide the data products and documentation summarizing the acquisition and preparation activities. This includes:

1. The original dataset of residential transactions (and parcels dataset, if applicable)
2. A final 'cleaned' transaction dataset (in a .csv and Stata .dta file format)
3. A data dictionary for final assembled datasets, including all variable names, definitions, and the source from which it came; and an organized description and citation for each source used to collect data;
4. A step by step description of the data cleaning process, identifying how many observations were dropped in each cleaning step, and what extraneous variables were eliminated (if any)
5. A short memorandum, length to be determined, assessing the potential need to interpolate for missing water quality data.
6. After delivery of the GIS database and the property transaction and parcel datasets, the contractor shall deliver all statistical and GIS programming code used to clean and manipulate the data to EPA.

If appropriate, the contractor shall use programming code and data cleaning developed under previous WAs. The existing code shall help to avoid duplication of work performed under those previous WAs. Previous deliverables used Stata, but EPA will also require data provided in .csv file format. Formats compatible with SAS shall also be discussed.

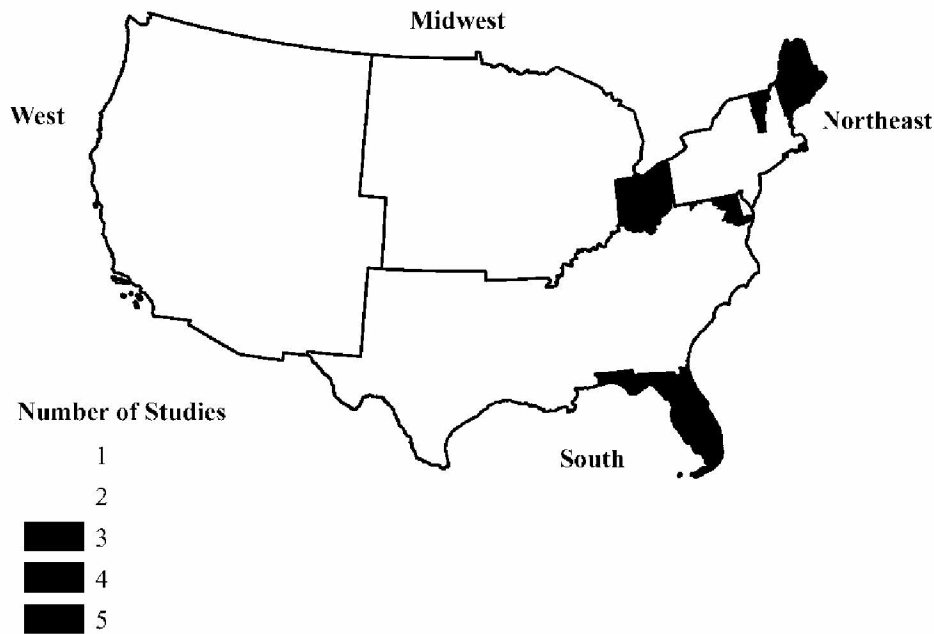
Deliverables and schedule under Task 5:

- 5a. Water quality data sets, data field dictionary, and a summary memo or other written description describing the methods used for data cleaning and preparation – within 4 weeks of receipt of technical direction choosing two housing markets from the WACOR.**
- 5b. Within 4 weeks of completing the water quality datasets in Task 5a, a draft GIS database containing each study location with multiple map layers.**
- 5c. Revised GIS database containing all study locations within 15 calendar days of receipt of comments from the WACOR on deliverable 5b., if required.**
- 5d. Draft property transaction and parcel datasets for all study locations within 6 weeks of completing revised GIS database in deliverable 5c.**
- 5e. Revised property transactions and parcel datasets for all study locations within 15 calendar days of receipt of comments from the EPA WACOR on 5d.**

5f. All original data purchased/obtained from their respective sources delivered to the EPA WACOR within 15 calendar days after they are purchased/obtained.

5g. All code used to clean or manipulate the aforementioned data within 15 calendar days of receiving deliverable 5e.

Figure 1. Number of Water Quality Hedonic Studies in each State (Source: Guignet et al. 2019).



References

Guignet, D.; M. Heberling; M. Papenfus; O. Griot; B. Holland. 2019. Property values and water quality: A nationwide meta-analysis and the implications of benefit transfer. In preparation. Accessed at: <https://www.epa.gov/environmental-economics/property-values-and-water-quality-nationwide-meta-analysis-and-implications>

Summary of Deliverables and Dates:

- 1a. Workplan within 15 calendar days of receipt of work assignment.**
- 1b. Revised workplan within 3 calendar days of receipt of comments from the Contracting Officer, if required.**

- 2a. The contractor shall deliver the datasets within 8 weeks of when a revised workplan is delivered (4 weeks after EPA delivers geographies and time-windows).**
- 3a. Establish locations and initial dates for focus groups within 8 weeks of when a revised workplan is delivered.**
- 3b. Recruit participants for first focus group within 1 week of receiving final location information and criteria from EPA and for subsequent focus groups within 1 week of receiving criteria for those groups.**
- 3c. Arrange audio-recordings of each group within 1 week of receiving final location information from EPA and for subsequent focus groups within 1 week of receiving criteria for those groups.**
- 3d. Submit audio-recordings and transcripts to WACOR within 3 weeks of completing each set of focus groups.**
- 4.1a. Written assessment of availability and suitability of surface water quality data – within 10 weeks of when a revised workplan is delivered.**
- 4.1b. Revised written assessment of the availability and suitability of water quality data – within 14 calendar days of receipt of comments from WACOR, if required.**
- 4.2a. Written assessment of availability and suitability of housing market data – within 15 weeks when a revised workplan is delivered.**
- 4.2b. Revised written assessment of the availability and suitability of housing market data – within 14 calendar days of receipt of comments from WACOR, if required.**
- 5a. Water quality data sets, data field dictionary, and a summary memo or other written description describing the methods used for data cleaning and preparation – within 4 weeks of receipt of technical direction choosing two housing markets from the WACOR.**
- 5b. Within 4 weeks of completing the water quality datasets in Task 5a, a draft GIS database containing each study location with multiple map layers.**
- 5c. Revised GIS database containing all study locations within 15 calendar days of receipt of comments from the WACOR on deliverable 5b., if required.**
- 5d. Draft property transaction and parcel datasets for all study locations within 6 weeks of completing revised GIS database in deliverable 5c.**
- 5e. Revised property transactions and parcel datasets for all study locations within 15 calendar days of receipt of comments from the EPA WACOR on 5d.**
- 5f. All original data purchased/obtained from their respective sources delivered to the EPA WACOR within 15 calendar days after they are purchased/obtained.**
- 5g. All code used to clean or manipulate the aforementioned data within 15 calendar days of receiving deliverable 5e.**

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment						Work Assignment Number 3-41				
						<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:				
Contract Number EP-W-17-009			Contract Period 02/11/2017 To 09/10/2020 Base Option Period Number 3			Title of Work Assignment/SF Site Name Public Hearings & Response-toC				
Contractor Abt Associates Inc.					Specify Section and paragraph of Contract SOW Section H, page10 of 11 & Section G, page 10 of 11					
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval						Period of Performance From 02/14/2020 To 09/10/2020				
Comments: The purpose of this action under ABT Contract EP-W-17-009 is to initiate Work Assignment 3-41. The Contractor shall submit an estimated work plan and an estimated budget in accordance with the Contract. See the attached Statement of Work.										
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
SFO <input type="checkbox"/> Note: To report additional accounting and appropriations date use EPA Form 1900-69A. (Max 2)										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period: Cost/Fee: LOE: 02/11/2017 To 09/10/2020										
This Action: 										
Total:										
Work Plan / Cost Estimate Approvals										
Contractor WP Dated: Cost/Fee LOE:										
Cumulative Approved: Cost/Fee LOE:										
Work Assignment Manager Name Patty Klavon <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>							Branch/Mail Code: Phone Number: 734-214-4476 FAX Number:			
Project Officer Name Cheryl R. Brown <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>							Branch/Mail Code: Phone Number: 202-566-0940 FAX Number:			
Other Agency Official Name <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>							Branch/Mail Code: Phone Number: FAX Number:			
Contracting Official Name Genine McElroy <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>							Branch/Mail Code: Phone Number: 202-564-4746 FAX Number:			

WORK ASSIGNMENT
Statement of Work

Title: Public Hearings & Response-to-Comments Support for Cleaner Trucks Initiative (CTI) Rulemaking

Contractor: Abt Associates

Contract No.: EP-W-17-009

Work Assignment Number:

3-41

Estimated Period of Performance:

Issuance to September 10, 2020

Estimated Level of Effort:

1012 hours

Work Assignment COR (WA COR):

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Work Assignment ALT COR:

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Contract Level COR (CL COR):

Cheryl R. Brown
Office of Policy, Immediate Office (1805T)
Phone: 202-566-0940
Email: brown.cheryl@epa.gov

Background:

On November 13, 2018, the EPA announced plans to undertake a new rulemaking – the Cleaner Trucks Initiative (CTI) – to update standards for NO_x emissions from highway heavy-duty vehicles and engines. Reducing emissions from highway heavy-duty trucks and buses is an important component of improving air quality nationwide and reducing public health and welfare effects associated with these pollutants.

The EPA plans to issue a Notice of Proposed Rulemaking (NPRM) for the CTI in June 2020. After the NPRM is published, there will be two (2) public hearings regarding the CTI to be held in the July 2020 timeframe and in geographically separate regions of the U.S.

Purpose and Objectives:

The Office of Transportation and Air Quality (OTAQ) Assessment and Standards (ASD) division requires contractor support for conducting two (2) public hearings and processing the public comments related to its proposed CTI rulemaking activities.

Tasks and Deliverables:

The WA COR will review all deliverables in draft form and provide revisions or comments to the contractor. The contractor shall prepare the final deliverables incorporating the WA COR's comments. Final deliverables shall be in Microsoft Word or another appropriate electronic format, as requested.

Contractor personnel shall at all times identify themselves as Contractor employees and shall not present themselves as EPA employees. Furthermore, they shall not represent the views of the U.S. Government, EPA, or its employees. In addition, the Contractor shall not engage in inherently governmental activities, including but not limited to actual determination of EPA policy and preparation of documents on EPA letterhead.

The Contractor shall not duplicate any previously performed work.

QUALITY ASSURANCE(QA) REQUIREMENTS

The Contractor shall submit a written Quality Assurance Project Plan for any project that is developing environmental measurements or a Quality Assurance Supplement to the Quality Management Plan for any project which generates environmental data using models with their technical proposal.

Task 1 - Prepare Work Plan and Project Administration

The contractor shall prepare a Work Plan within 15 calendar days of receipt of a work assignment signed by the Contracting Officer (CO). The Work Plan shall outline, describe and include the technical approach, resources, timeline and due dates for deliverables, and a detailed cost estimate by task and a staffing plan.

The WA COR, CL COR and the CO will review the Work Plan. However, only the CO can approve/disapprove, suggest revisions, or change the Work Plan. Official revisions will be given to the contractor by the CO. The contractor shall prepare a revised Work Plan incorporating the CO's comments, if required.

Deliverables and schedule under Task 1

1a. Work Plan within **15** calendar days of receipt of work assignment.

1b. Revised Work Plan within **3** days of receipt of comments from the WA-COR, if required.

Task 2 - CTI Public Hearings Support (Contract SOW-Section H, page 10 of 11)

The contractor shall provide support for two (2) separate public hearings including logistics, transcription services and preparation of a written record.

Task 2a

The contractor shall provide logistical, administrative, and technical support for two (2) public hearings to be held in the July 2020 timeframe in geographically separate regions of the U.S. The WA COR will provide the final dates and cities of the hearings as soon as those aspects are finalized.

Two (2) contractor staff members shall be on-site at each public hearing and available to assist the EPA's staff.

The contractor shall arrange the logistical aspects of the public hearings, including one large meeting space/room for each hearing; approximately 200 people are expected to attend each hearing in person. Audio/visual equipment, court reporting and a conference telephone line shall be provided for the meeting room at each public hearing. Smaller breakout rooms shall be available for the EPA staff, press, and state governors or members of congress on the day of the hearing, as well.

The conference telephone line (listening-in ONLY) shall accommodate a minimum of 200 people/line at each hearing. The WA COR will provide the contractor a tentative list of required audio/visual and related equipment and will issue written technical direction as other logistical or special needs become known.

Task 2b

The contractor shall provide for court reporting at each of the two (2) public hearings. Each court reporter shall prepare an official transcript of the proceedings. The contractor shall provide a draft copy of each transcript to the WA COR, within five (5) business days of the close of each of the two (2) hearings. After incorporating any comments from the Work Assignment COR to the draft transcript, the contractor shall provide final copies of each transcript to the WA COR.

Task 2c

The contractor may be called upon by the WA COR, through written technical direction, to arrange for special assistance for hearing-impaired attendees, e.g., sign language services, or to arrange for Spanish language translation. These items shall be costed out separately in the work plan.

Deliverables and scheduled under Task 2:

2a. At least **14** calendar days before to the two (2) public hearings, logistical aspects of each

- hearing shall be settled.
- 2b.** Five (5) calendar days prior to the two (2) public hearings, court reporters shall be secured for both meeting rooms to provide written hearing transcripts.
 - 2c.** Five (5) calendar days before the two (2) public hearings, any special needs/assistance for attendees shall be arranged and scheduled for each hearing.

Task 3 - CTI Public Comment Summary Database Support (Contract SOW Section G, page 10 of 11)

Following publication of the NPRM, the comment period on the NPRM will be open for a period of 30-90 days. The contractor shall provide response to comments support including preparing summaries of comments received by the WA COR on the proposed rule, organizing the comments into a database form and submitting a final summarized document.

Task 3a

Within three (3) business days of receiving access to the EPA public docket, EPA-HQ-OAR-2019-0155, the contractor shall view the docket for comments received on the CTI NPRM for the rule. The WA COR will grant the contractor access to the docket associated with the NPRM beginning no later than one (1) week after the opening of the comment period.

Task 3b

The contractor shall electronically summarize a sub-set of comments as specified by the WA COR in a web-accessible database, using text verbatim from the comments.

The WA COR will provide the contractor with an initial outline by which the comments should be organized. The contractor shall modify the outline, as necessary, based on written technical direction from the WA COR, depending on the nature of the public comments. The contractor shall also incorporate comments received at the public hearing into the comment summary.

The summary of comments shall include: 1) a numbering system; 2) categories of comments per outline provided by the WA COR; 3) relevant verbatim text from the comment documents and transcripts; and 4) name and affiliation of commenter. The contractor shall summarize any higher priority comments, identified by the WA COR via written technical direction, that should be incorporated in the document earlier in the summarizing process.

Task 3c

The WA COR will provide the contractor with a list of EPA staff who will need access to the comments database for the purposes of reviewing and writing responses to the comments. The contractor shall support the comment database, including making modifications to it to improve use and efficiency. Modifications may be suggested by the contractor or by the WA COR, via written technical direction. The contractor shall be available to assist designated EPA staff in the use of the electronic comments database.

Task 3d

The contractor shall prepare a draft document summarizing the comments within 30 days after the comment period closes. The WA COR and the technical leads will review the draft document and provide comments to the contractor. The contractor shall revise the document and deliver the final document to the WA COR within five (5) business days of receiving final comments from the WA COR.

Deliverables and schedule under Task 3:

- 3a. View the docket
- 3b. Open the electronic comments database no later than five (5) business days after accessing the EPA's NPRM comments docket
- 3c. Assist EPA staff with accessing electronic comments database and making ongoing modifications to draft response to comments document; and
- 3d. Submit draft summary of comments within **30** days of public comment period closure. Provide final document within **five (5)** business days of receiving final comments from the WA COR.

Task 4 – Bi-Weekly Status Update Meetings

The WA COR, EPA technical lead, and the contractor shall meet on a bi-weekly basis via phone calls unless the WA COR specifies otherwise (e.g., no meeting required for a given week). These meetings are expected to take 30 minutes or less to discuss project progress and any issues that need resolution.

Summary of Deliverables and Dates:

Task	DELIVERABLE MILESTONES	DUE DATE
1	Workplan Submission	Within 15 calendar days of receipt of work assignment
	Revised Workplan (if applicable)	within 3 calendar days of receipt of comments from the Contracting Officer, if required.
2	CTI Public Hearing Support	
2a	Arrange for logistical aspects of the hearing	14 calendar days before the hearing date
2b	Secure the court reporter to provide written transcripts of the hearing	14 calendar days before the hearing date
2c	Arrange for special assistance/needs for hearing attendees	Five calendar (5) days ahead of hearing date
3	CTI Comment Summary Database Support	
3a	View the Docket Associated with the CTI rulemaking	Within three (3) business days of receiving access to the docket
3b	Open the Electronic Comments Database	Within five (5) business days after accessing the EPA's comments

		docket
3c	Assist EPA staff with the electronic comments database and make modifications	Ongoing
3d	Prepare Comment Summary document based on comments	Within 30 days of public comment period closure
	Finalize the Response-to-Comments document	Within five (5) business days of receiving final comments from the Work Assignment COR
4	Bi-Weekly Status Update Meetings	Bi-weekly; as scheduled with the Work Assignment COR